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COMMITTEE PRINT

COLUMBIA BASIN PROBLEMS

MEMORANDUM

OF THE

CHAIRMAN

TO THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

MATERIALS CONCERNING COORDINATION OF PROJECTS IN THE COLUMBIA RIVER BASIN

MAY 7, 1958

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MEMORANDUM OF THE CHAIRMAN

To the Members of the Interior and Insular Affairs Committee:

In contrast to the development of the Tennessee River exclusively by the Tennessee Valley Authority, development and management of the Columbia River on a unified basis now involves coordination between governments and between public and private agencies.

A hearing has been conducted on the situation in the upper Columbia Basin covering aspects of international coordination and cooperation.

Hearings on May 14–15, 1958, will involve coordination, or integration, of operations of the Idaho Power Co. and the large public projects already in operation on the Columbia River. Negotiations between the company and the Bonneville Power Administration are now underway.

Statement of principles upon which a coordinating agreement is being approached, proposals of the company and the BPA, and considerable factual material on possible operations and benefits from coordination, or integration, are contained in correspondence between the chairman, the Department of the Interior, Bonneville Power Administration officials, and others, and in details of negotiations supplied to the chairman by the Department of Interior. Since these are pertinent to the hearing, contain background for the members who will participate, and will later be made a part of the hearing record, I have directed their preparation as a committee print, in advance of the hearing, for the timely information and use of the committee. Some additional technical materials are available in the committee files.

JAMES E. MURRAY,
Chairman, Committee on Interior and Insular Affairs,
United States Senate.

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COLUMBIA BASIN PROBLEMS

LETTER OF CHAIRMAN JAMES E. MURRAY TO SECRETARY OF THE INTERIOR FRED A. SEATON

WASHINGTON, D. C., *October 31, 1957.*

Hon. FRED A. SEATON,
Secretary of the Interior.

DEAR MR. SECRETARY: Published reports and reliable sources indicate that the Idaho Power Co. has made available to the Bonneville Power Administration a proposal or plan for the coordination and/or integration of Brownlee Dam on the Snake River with BPA operations.

Such coordination of the Idaho Power Co. projects in the middle Snake River is required by the terms of the license issued by the Federal Power Commission and will obviously have affect on Bonneville Power Administration operations, the Northwest power pool and control of the Columbia River for flood control and navigation.

Because of the importance of the agreement, and because matters concerning this project are pending before Federal and State commissions and Congress for early action, I would appreciate your furnishing the committee, no later than November 4, 1957, with copies of any proposals which have been made between the Idaho Power Co. and the Bonneville Power Administration for coordination or any plan of operation which has been discussed. This included draft contracts and any other such documents, whether formally or informally submitted by either party.

Because of the great public interest and stake in this matter, I feel that our committee should have an opportunity to review any coordination or integration contract proposal between the Idaho Power Co. and Bonneville before it is finally executed. I urge you to consult with the committee in regard to the matter to the fullest extent and keep the members advised as negotiations proceed.

Sincerely yours,

JAMES E. MURRAY, *Chairman.*

REPLY TO SENATOR MURRAY BY ASSISTANT SECRETARY OF INTERIOR ROGER ERNST

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., November 6, 1957.

Hon. JAMES E. MURRAY,
Chairman, Committee on Interior and Insular Affairs,
United States Senate, Washington, D. C.

DEAR SENATOR MURRAY: Please refer to your letter of October 31, acknowledged on November 1, and to your telegram of November 4 requesting that the committee be furnished with copies of proposals made between the Idaho Power Co. and the Bonneville Power Administration relative to the coordination of the company's licensed middle snake projects with the Bonneville system.

The discussions with the company concerning coordinated operation have been carried on in the field between company officials and the Bonneville Power Administrator and his staff, and have been entirely exploratory and preliminary in nature. Any discussions, information, or documentary material that has been transmitted by Bonneville Power Administration representatives to the company have been without commitment and subject to revision, modification, or clarification as the Bonneville Power Administration's analysis of the problem progressed.

Accordingly, we advised in our acknowledgment of November 1 that we were requesting the necessary material from Bonneville's Portland headquarters. The Bonneville liaison office in Washington did, however, receive on October 11 from the Portland headquarters a copy of a proposal made by the company for discussion purposes on January 29, identified as draft No. 2. In view of the urgent reiteration of your request by your telegram of November 4, we are enclosing the company's draft of January 29 herewith. We have also requested the Bonneville Administrator to airmail directly to the committee at once all other documents that have been exchanged by the company and Bonneville Power Administration, either formally or informally.

Material prepared and presented to Bonneville Power Administration by the company, including the January 29 draft, enclosed, should be understood as reflecting the company's views for discussion purposes only, and there have been no agreements or commitments thereon expressed by any Government official. Likewise, as indicated above, material that has been presented by Bonneville representatives has, for its part, been presented without commitment and subject to further study, review, and formulation of position.

The Department fully appreciates the importance of achieving a coordination agreement that will gain for the region the maximum effective utilization of the resources available in a manner that thoroughly comports with the public interest. It is approaching effectuation of such agreement from that standpoint.

Manifestly, there is involved in any coordination arrangement of this scope many complexities of detail in addition to the fundamental principles which must govern. The detailed terms and conditions which will be worked out in the light of governing fundamentals will, themselves, no doubt, require careful and extended consideration.

While we are not prepared at this time, of course, to comment regarding the detailed terms and conditions which will have to be worked out, the Department has, with the Bonneville Power Administrator, arrived at the general, fundamental principles which, in its view, are required to achieve the maximum possible benefits of coordination in the public interest.

You are, of course, familiar with the physical and hydraulic factors involved in coordinating the middle Snake projects with the Northwest power pool. The essence of any coordination arrangement involves an exchange of energy between the Federal system and the Idaho Power Co. whereunder the company receives energy during the summer months and the Government receives energy during the winter months.

The fundamental principles which, in our view, should govern the terms of the exchange are that it should be in a ratio equitable to both parties, taking cognizance of the fact that the power exchanged is, in large degree, surplus to the requirements of the generating entity at the time of its generation. The coordination of the licensed projects with the Northwest power pool being required as a condition of the license issued by the United States, it is likewise fundamental that the generation at downstream Federal plants from water releases at Brownlee are not to be considered in determining the ratio for the exchange of energy.

It is the Department's intention, before any arrangements are formalized, thoroughly to discuss them with the Government's customers, customer associations, and other interested groups such as those represented by the membership of the Bonneville Regional Advisory Council. We shall also, of course, keep the interested congressional committees fully advised.

Sincerely yours,

ROGER ERNST,
Assistant Secretary of the Interior.

LETTER OF DR. WILLIAM A. PEARL TO SENATOR JAMES E. MURRAY

DEPARTMENT OF THE INTERIOR,
BONNEVILLE POWER ADMINISTRATION,
Portland, Oreg., November 6, 1957.

Hon. JAMES E. MURRAY,
United States Senate, Washington, D. C.

DEAR SENATOR MURRAY: At the request of Secretary Seaton, we are enclosing copies of all documents which have been prepared by the Bonneville Power Administration and by the Idaho Power Co. in connection with the discussion and study of a lawful and equitable method of complying with the terms of the company's license for its middle Snake River projects.

We would like to emphasize the fact that all of the discussions between the Administration and the company to date have been preliminary in character and, for the most part, have been directed toward ascertaining the total additional firm-power capability which will inure to the benefit of the region by reason of the coordination required by the license. Copies of the studies developed in this determination are included in the enclosure. While some of the documents enclosed may appear to be in contractual format, we wish to further emphasize the fact that neither the Administration nor the Idaho Power Co. have to date made any firm offer with respect to coordinated operation or to the division of the benefits resulting therefrom. Proposals for discussion purposes are normally prepared thus to insure that all parties are precisely informed of the issues under consideration.

In line with our usual practice, it is our intention to thoroughly discuss all fundamental features of any proposed agreement establishing coordinated operation of the Idaho Power Co.'s project and its system with the Northwest power pool with all interested groups and agencies in the Pacific Northwest before any contract is finally formalized.

We will be most happy to keep your committee fully informed as developments are made in the course of our discussions.

Sincerely yours,

WM. A. PEARL, *Administrator.*

Documents Submitted to Chairman Murray With Dr. Pearl's Letter of November 6, 1957

Conference and Telephone Call Report

December 5, 1955.

For: Office of the Administrator.
From: John P. Jolliffe.

Outside caller or conferee: Ralph Gale, vice president, Idaho Power Co.

Summary of discussion: I called Mr. Gale to advise him that we had completed our studies on the integration of the Brownlee, Oxbow, and Hells Canyon Dams into the Northwest system, and that we would have them in the mail sometime this week.

It was mutually decided to hold a meeting to discuss the study in Boise, Idaho, on January 4, 1956.

December 15, 1955.

Mr. John T. Kimball,
Vice President and General Manager,
Idaho Power Co., Boise, Idaho.

Dear Mr. Kimball: You will recall when we were in Spokane you expressed an interest in our standard maintenance frequencies. I have finally been able to locate a copy of some earlier material which we distributed about a year ago to our customers. I am attaching that portion of this material which was applicable to maintenance with the hope that it will be useful to you.

I hope we can send Mr. Gale some information on the integration of your middle Snake dams sometime next week. In looking over the material in draft form I find it very interesting and I am sure you people will also.

I would like to take this opportunity to send you seasons greetings and best wishes for the coming year.

Sincerely yours,

Miller Evans,
Acting Director, of Operations and Maintenance.

December 16, 1955.

Mr. Ralph Gales,
Vice President, Idaho Power Co.,
Boise, Idaho.

Dear Mr. Gales: In Mr. Jolliffe's absence I am attaching for your review and consideration a preliminary study and analysis prepared in this division relative to the coordinated operation of Brownlee with the Federal system and the Northwest Power Pool. Mr. Jolliffe and 1 or 2 of the staff are planning to meet with you in Boise on January 4, 1956, to discuss the study if this still continues to be agreeable to you. In the meantime we are continuing to review the overall problem and will be glad to try and answer any question that you may have prior to the meeting. I am sending a copy of this material to Mr. Boyd Austin of the Bureau of Reclamation at Boise, who has been designated as the Bureau representative on this problem.

I'd like to take this opportunity to extend to you my best wishes for the forthcoming year.

Sincerely yours,

Miller Evans,
Acting Director, Division of Operations and Maintenance.

December 21, 1955.

Mr. Lesher Wing,
Federal Power Commission,
San Francisco, Calif.

Dear Mr. Wing: This is to let you know that the meeting scheduled in Boise, Idaho, on January 4, 1956, pertaining to coordinated operation of the Brownlee storage with the Northwest Power Pool through the Federal system, has been

postponed until January 11. Please advise your representative of this change. The exact time and place will be forwarded to you prior to the meeting.

Very truly yours,

JOHN P. JOLLIFFE,
Chief, System Operations and Power Resources.

DECEMBER 28, 1955.

To: Mr. Henderson M. McIntyre.
From: Administrator.
Subject: Idaho Power integration.

The other day when the advisory board met we discussed the integration with Idaho Power. As you know, Reclamation has designated a man to represent them at all your meetings with the Idaho Power.

I asked General Foote if he would like to have representation present and he said he thought he would designate Mr. Mark Nelson to represent him. Mr. Wing also indicated he would like to be represented and designated Mr. Irvine J. Rees.

Will you please forward to these men the material you prepared for this meeting, and keep them informed regarding when your meeting will take place with the Idaho Power in Boise.

WM. A. PEARL, *Administrator.*

DECEMBER 30, 1955.

Mr. IRVINE J. REES,
Engineer, Federal Power Commission, San Francisco, Calif.

DEAR IRVINE: Enclosed is a copy of the power operation studies prepared by BPA for discussion with the Idaho Power Co. relative to coordination of Brownlee with the Federal system and the Northwest Power Pool. This copy is in addition to the one sent by Dr. Pearl to Mr. Wing.

As you know, the meeting at the Idaho Power Co. offices in Boise, Idaho, has been tentatively scheduled for January 11, 1956. In the meantime should you have any questions regarding the studies, please let me know.

Very truly yours,

H. M. MCINTYRE,
Hydraulic Operations Officer.

IDAHO POWER, CO.,
Boise, Idaho, January 12, 1956.

Dr. WILLIAM A. PEARL,
Administrator, Bonneville Power Administration, United States Department of the Interior, Portland, Oreg.

DEAR DR. PEARL: Your letter of December 21, 1955, to Mr. T. E. Roach, has been referred to me for reply.

The information regarding the load estimates which was furnished you by Mr. H. R. Moore, under date of October 14, a copy of which is attached, is suitable and the most current estimate we have regarding the total peak and energy loads by months to July of 1967.

The electrical data on major new transmission facilities which will be added to our system and be in operation by January of 1961 is shown on the attached schedule headed "New and proposed 230 kilovolt transmission lines," and also on the attached map.

The schedule of dates when units at the Oxbow and Brownlee plants will be added is changed to the following dates:

	Brownlee	Oxbow
Unit No. 1	May 1958	April 1961.
Unit No. 2	July 1958	May 1961.
Unit No. 3	September 1958	July 1961.
Unit No. 4	November 1958	August 1961.

We will be very pleased to participate in meetings which your staff may have during the preparation of your 1958 budget data.

If the above information is not complete or is not in the desired form, please do not hesitate to advise us and we will endeavor to comply with any request.

Yours very truly,

R. E. GALE, *Vice President.*

Idaho Power Co. load forecast 1956–67 for engineering subcommittee of Northwest Governors' power policy committee

[Megawatts]

	July	August	September	October	November	December	January	February	March	April	May	June
1956–57:												
Peak	477	475	452	395	408	413	428	401	383	412	461	487
Energy	363	357	333	288	290	295	307	297	288	302	342	361
1957–58:												
Peak	505	503	483	421	434	439	455	427	407	438	493	534
Energy	384	377	354	305	307	312	325	314	305	320	364	394
1958–59:												
Peak	553	550	520	454	468	473	491	461	440	512	611	656
Energy	418	411	381	329	331	336	350	339	328	377	456	486
1959–60:												
Peak	676	673	641	571	586	592	610	578	556	590	653	684
Energy	513	505	473	417	420	425	440	428	417	434	484	507
1960–61:												
Peak	706	708	669	544	610	616	636	602	578	613	682	715
Energy	534	527	492	433	436	441	457	444	432	451	504	528
1961–62:												
Peak	738	735	699	619	636	642	663	627	602	639	712	748
Energy	557	550	512	450	453	458	475	461	449	469	525	551
1962–63:												
Peak	772	769	731	645	663	670	692	654	627	667	744	783
Energy	582	574	534	468	471	476	494	479	467	488	548	575
1963–64:												
Peak	808	805	765	673	692	700	723	683	654	696	778	820
Energy	608	599	557	487	490	495	515	499	486	508	572	601
1964–65:												
Peak	847	843	801	703	723	732	756	713	683	727	815	859
Energy	636	626	582	507	510	516	538	520	506	529	598	628
1965–66:												
Peak	888	884	839	735	756	766	791	745	713	760	854	901
Energy	666	655	608	528	532	538	561	542	527	552	625	657
1966–67:												
Peak	932	927	880	769	791	802	829	780	745	795	896	946
Energy	698	686	636	551	555	561	580	566	550	576	654	688

IDAHO POWER CO.

New and proposed high voltage transmission lines (230 kilovolts)

	Length	Conductor	Equal spacing
	Miles		*Feet*
1956, 1 circuit A Baker-LaGrande	46.5	795 MCM	24.6
1957, 1 circuit B Brownlee-Baker	50.0±	795 MCM	24.6
1957, 2 circuits C Brownlee-Boise	15.0±	1,431±MCM	24.6
1—1957}2 circuits D Brownlee-Boise	105.0±	954 MCM	24.6
1—1959}			
1958, 1 circuit E Boise-American Falls No. 1 [1]	189.8	715.5 MCM	25.2

[1] Item E—Convert existing 138 kilovolts to 230 kilovolts.

PROPOSED TIE STATIONS

Boise Bench: 230/138 KV. tie transformer 300 MVA; 40 MVA syn condenser.
American Falls: 230/138 KV, tie transformer 400 MVA; 1–60-MVA syn condenser.

JANUARY 17, 1956.

Mr. H. R. MOORE,
Superintendent of Power, Idaho Power Co.,
Boise, Idaho.

DEAR DICK: Thank you very much for the characteristic data for Idaho Power Co.'s Brownlee and Oxbow plants. We will adjust our original studies accordingly and use this data in preparing the additional analysis suggested at our Boise meeting.

Very truly yours,

H. M. MCINTYRE,
Hydraulic Operations Officer.

FEBRUARY 1956.

Mr. H. R. MOORE,
Superintendent of Power,
Idaho Power Co., Boise, Idaho.

DEAR MR. MOORE: We have reviewed our studies of benefits from coordination of Brownlee with the Northwest power pool and as a result have increased the benefits from this coordination. Part of the benefit is attributable to the revised characteristics for the Brownlee project that you sent to us. We were also able to increase the benefit from coordination by delaying Brownlee storage release until later in the year.

Copies of the combined system regulations and revised tables are enclosed. I am also sending copies of this material to the representatives of the Federal Power Commission, Corps of Engineers, and Bureau of Reclamation by a separate letter.

Under minimum year streamflow conditions and coordinated operation Brownlee storage is not withdrawn until after January 1 in either 1961–62 or 1964–65. On the basis of median month hydro withdrawal is started somewhat earlier or on the 1st of October.

You will note that benefits from coordination under 1962–63 installations have increased from 124 average megawatts to 142 average megawatts and the annual loss at Brownlee and Oxbow because of coordinated operation instead of isolated operation amounts to only 3 average megawatts instead of 19 as shown in the original computation. Under minimum year streamflow conditions and 1964–65 installations the benefit has been increased from 167 average megawatts to 181 average megawatts. Similar increases are indicated for these 2 years under median month streamflow conditions. In addition, the increased efficiencies of the Brownlee plant have made possible additional capability to the Idaho Power Co. on an independent operation basis. As an example, under 1962–63 installations and minimum year hydro the surplus is increased from 50 average megawatts to 61 average megawatts.

This data is only a reanalysis of the material included in our original report. We are continuing on with the other suggested studies and will forward them to you as soon as they are completed. We hope to have considerably more of them finished prior to the February 14 meeting. We have advanced far enough along on these other studies that we feel some benefit could be gained if you or members of your staff could come to Portland and discuss them with us prior to the general meeting now scheduled on February 14. Any time between now and then would be satisfactory to us. I might recommend February 13 for this prior meeting so as to combine the two meetings in one trip. Please let me know your wishes so that I may make arrangements for these meetings in our Interior Building, 1001 NE Lloyd Boulevard.

Very truly yours,

H. M. MCINTYRE,
Hydraulic Operations Officer.

IDAHO POWER CO.,
Boise, Idaho, February 15, 1956.

Mr. HENDERSON M. MCINTYRE,
Bonneville Power Administration,
Portland, Oreg.

DEAR MAC: In our discussion yesterday, I agreed to review the figures you used in the study for the present peak and average capacities of our present plants under both median and critical water conditions.

We find that the figures you have used are from the power-pool operating program and have the same source as the ones we ordinarily use. However, there are some small discrepancies, and we feel that it might be better to use the figures that we normally use.

Enclosed are four sheets showing these figures:

1. The peaking capacity under both median and critical water.
2. Energy capacity, median water.
3. Energy capacity, critical water.
4. Energy capacity, system critical.

These figures are, of course, based on historical river flows and, while it might be desirable to have capacities based on depleted flows, this does not seem to be practical, since depletion will have entirely different effects on different plants and, as far as we know, no data are available by which each individual plant's capacity could be adjusted.

Very truly yours,

H. R. MOORE,
Superintendent of Power.

FEBRUARY 23, 1956.

Mr. H. R. MOORE,
Superintendent of Power, Idaho Power Co.,
Boise, Idaho.

DEAR DICK: This will acknowledge receipt of your system capabilities for median and critical and your own system critical water conditions. We will use these in preparing further studies.

Thank you very much for the above data.

Very truly yours,

H. M. MCINTYRE,
Hydraulic Operations Officer.

BONNEVILLE POWER ADMINISTRATION,
Portland, Oreg., April 13, 1956.

Mr. RALPH GALE,
Idaho Power Co.,
Boise, Idaho.

DEAR MR. GALE: Since our last correspondence, we have completed several additional studies on the gain to the Idaho Power Co. system and the area as a result of the construction and operation of the Brownlee, Oxbow, and Hells Canyon projects. In addition, 1 study has been prepared which also includes the proposed Northwest Power Co. plants at Mountain Sheep and Pleasant Valley, and the combined gain to the area of all 5 plants. Not previously circulated to you are copies of our work sheets showing the determination of the main Columbia River system prime, excluding the new Idaho Power Co. and Northwest Power Co. plants on the Snake River.

Our previous discussions with you and representatives of the Corps of Engineers, Federal Power Commission, and Bureau of Reclamation indicated that the incremental method of determining the gain by addition of these projects is a more direct method of measuring the gain than the difference between independent and coordinated operations used in most of our analysis. We are enclosing the following additional worksheets and tables showing the result of these additional studies:

1. Copies of worksheets showing coordinated operation of Brownlee, Oxbow, and Hells Canyon plus Pleasant Valley and Mountain Sheep with the main Columbia River system. These studies are for both minimum year 1936–37 and median month streamflow conditions and installations for the 1962–63 operating year.

2. Copies of main Columbia River system operating studies, 1962–63 and 1964–65 installations.

3. Coordinated and independent operation of Brownlee, Oxbow, and Hells Canyon with the main Columbia River system, based on 1934–35 streamflow conditions. In this instance, six tables have been prepared showing the benefits of coordinated operation over independent operation on both 1962–63 and 1964–65 installations and detailed studies of the effect on the Idaho Power Co. system under both of these conditions.

The measure of benefits or gain with addition of Brownlee, Oxbow, and Hells Canyon on an incremental basis is shown on the following table:

Incremental gain due to addition of Brownlee, Oxbow, and Hells Canyon on coordinated operation basis

[Minimum-year hydro (1936–37)]

	Storage-season capability, in average megawatts	
	1962–63	1964–65
Main Columbia River system only	4,573	4,571
Main Columbia River system plus Brownlee, Oxbow, and Hells Canyon	5,019	5,238
Gain due to addition of new plants	446	663
Generation at Brownlee, Oxbow, and Hells Canyon	396	618
Gain on main Columbia River system	50	45

In order to achieve coordinated operations, a portion of Idaho Power Co.'s estimated summertime firm loads totaling 294,928 megawatt-hours during July and August 1962 and May and June 1963, and 210,744 megawatt-hours during May and June 1965 would have to be made up from main Columbia River secondary during these months. The Idaho Power Co. could, by operating Brownlee storage on an independent basis, serve their summertime loads, but this operation would create a loss in power on the main Columbia system.

Although the annual generation on the 3 Idaho Power Co. plants is slightly lower in 1962–63 by 25,380 megawatt-hours under coordinated operation than under an independent operation, requirements from the main Columbia River system to serve deficits in meeting Idaho Power Co.'s summertime loads exceed this apparent loss many times. Under 1964–65 conditions, the Idaho Power Co.'s computed annual generation is also lower by 50,760 megawatt-hours on the coordinated basis than under an assumed independent operation. There would still be 210,744 megawatt-hours delivered from the Federal system during May and June of that year to meet Idaho Power Co.'s estimated firm load.

One factor not previously evaluated, but mentioned several times during our discussions, is the gain to Brownlee, Oxbow, and Hells Canyon because of streamflow diversity. Since the minimum year on the Snake River is 1934–35, we have prepared a table to show the increase in the Snake River capabilities with 1936–37 streamflow conditions compared with conditions occurring in 1934–35. If the 1936–37 level of generation is to be considered firm load carrying ability, it should be recognized that under 1934–35 streamflow conditions an additional 30 average megawatts would be required from the main Columbia River system under estimated 1962–63 installations and 46 average megawatts for the 1964–65 year. The main Columbia River system increase in energy capabilities are over 1,200,000 kilowatts with 1934–35 streamflow above those under 1936–37 conditions. It is, therefore, certain that the requirements to firm up Brownlee, Oxbow, and Hells Canyon, should 1934–35 conditions reoccur, will be available from the main system. A table illustrating the diversity in capabilities under 1934–35 streamflows and 1936–37 conditions follows:

Gain to Brownlee, Oxbow, and Hells Canyon because of streamflow diversity

[Storage season capability in average megawatts]

Coordinated operation	1962–63	1964–65
Average capability of Brownlee, Oxbow, and Hells Canyon:		
(1) Under 1936–37 hydro conditions	396	618
(2) Under 1934–35 hydro conditions	366	572
Increase with 1936–37 hydro	30	46
Average capability main Columbia River system:		
(1) Under 1936–37 hydro conditions	4,623	4,620
(2) Under 1934–35 hydro conditions	5,840	5,849
Increase with 1934–35 hydro	1,217	1,229

We are also including a table to show the incremental gain to the combined addition of Brownlee, Oxbow, Mountain Sheep, and Pleasant Valley. The gain due to these 4 plants with storage at Brownlee and Pleasant Valley amounts to 1,093 average megawatts with generation at Brownlee, Oxbow, and Mountain Sheep amounting to 1,031 average megawatts making a gain on the main Columbia River system of 62 average megawatts. This situation is indicated in the following table:

Incremental gain due to addition of Brownlee, Oxbow, Mountain Sheep, and Pleasant Valley

[Minimum year hydro (1936-37)]

	Storage season capability (average megawatts)
Main Columbia River system only	4,573
Main Columbia River system plus Brownlee, Oxbow, Hells Canyon, Mountain Sheep, and Pleasant Valley	5,666
Gain due to addition of new plants	1,093
Generation at Brownlee and Oxbow	396
Generation at Mountain Sheep and Pleasant Valley	635
Total	1,031
Gain on main Columbia River system	62

The gain of 62 average megawatts on the main Columbia River system is based on 1 million acre-feet at Brownlee and 530,000 acre-feet at Pleasant Valley. The additional gain due to Pleasant Valley storage of 12 average megawatts or 62 average megawatts, the gain from the combined Brownlee and Pleasant Valley storage less 50 average megawatts, the gain from Brownlee storage only is not directly proportional to the storages. This is primarily due to the release of Pleasant Valley storage at the end of the storage season resulting in the necessity of earlier storage withdrawal on the Federal system to equalize capabilities with loads. As a result the average head during the storage season on Federal system storage projects is lower and the gain from Pleasant Valley storage is offset by a lower generation from streamflow at Federal system storage projects. The at-site gain in generation at Pleasant Valley from maintaining a high reservoir as long as possible makes this operation best for the overall coordination.

Copies of the additional studies and explanations will be sent to representatives of the Federal Power Commission, Corps of Engineers, and the Bureau of Reclamation.

Discussions of these tables and studies can be taken up at the next meeting, tentatively scheduled for May 2 and 3. This meeting either in Portland or Boise will be agreeable with us. Please let us know your desire.

Very truly yours,

MILLER EVANS,
Acting Director, Operations and Maintenance.

IDAHO POWER CO.,
Boise, Idaho, July 12, 1956.

Dr. WILLIAM A. PEARL,
Administrator, Bonneville Power Administration,
United States Department of the Interior, Portland, Oreg.

DEAR DR. PEARL: As you know, representatives of our company and members of your engineering staff have been working together for the past 6 months to determine the benefits to the overall northwest power pool supply which will result from the integration of our recently authorized Brownlee, Oxbow, and Hells Canyon projects with the Federal system. I understand that these studies are nearing completion, and that we will shortly begin discussions with your staff as to the details of an agreement which will insure the achievement of these benefits.

Inasmuch as this will undoubtedly take some time and because of the special conditions relative to interchange and/or purchase of energy, it seems proper for us to request that pending completion of the integration above the Idaho Power Co. be listed in paragraph 3 (b) (3) of the proposed contract for the sale of priority interruptible power, draft dated June 18, 1956, and there be made available to the Idaho Power Co. the same benefits to which the company would be entitled if it were presently a customer of the Bonneville Power Administration under the 20-year agreement. Will you be kind enough to advise me regarding your reaction to this suggestion.

Cordially,

T. E. ROACH.

SEPTEMBER 5, 1956.

Mr. RALPH GALE,
Vice President, Idaho Power Co.,
Boise, Idaho.

DEAR MR. GALE: Enclosed are three copies each of revised regulations for the Brownlee, Oxbow, and Hells Canyon coordinated operations for the main Columbia River system. The regulations include installed capacities for both the 1962–63 and 1964–65 expected conditions. Studies are also included for the 1962–63 condition, including Mountain Sheep and Pleasant Valley. The studies for Brownlee, Oxbow, and Hells Canyon are made on three different streamflow conditions: 1934–35, 1936–37, and median month. The studies including Mountain Sheep and Pleasant Valley were not made for the 1934–35 streamflow conditions.

All these analyses reflect the increased design capacities at Brownlee and Oxbow and equivalent increase at the Hells Canyon project to provide a balanced 3-dam plan. These increased installed capacities reflecting enlarged turbine capacities are as follows:

[Megawatts]

Plant	Nameplate rating	Peak capacity
Brownlee	360	414
Oxbow	190	226
Hells Canyon	350	400

The coordinated operations on the basis of the larger turbine and generator capacities increase the combined output under 1936–37 streamflow conditions about 4 average megawatts. The Idaho Power Co. system realized a gain of 8 average megawatts and the main Columbia River system a loss of 4, making a net gain of 4 average megawatts. Under 1964–65 installations and 1936–37 water, the net gain amounted to only 2 average megawatts from an increase of 8 megawatts on the Idaho Power Co. plants and a loss of 6 megawatts on the main Columbia River system. Similar gains of slightly higher magnitude are made under median month and 1934–35 streamflow conditions.

It was also necessary to revise the coordinated operations including Pleasant Valley and Mountain Sheep. Under these revised operations the incremental gain due to the addition of Brownlee, Oxbow, Mountain Sheep, and Pleasant Valley was increased by 3 megawatts under 1936–37 water conditions. This resulted from a gain on the main Columbia River system of 6 megawatts and a corresponding loss on the combined Snake River plants of 3 average megawatts.

The differences between studies including Brownlee, Oxbow, and Hells Canyon previously sent to you and the revised studies are shown on the table attached.

Very truly yours,

H. M. MCINTYRE,
Hydraulic Operations Officer.

Comparison of combined capabilities under increased plant capacities for Brownlee, Oxbow, and Hells Canyon storage season capabilities

	Average megawatts	
	1962–63	1964–65
1936–37 hydro:		
Oxbow, Brownlee, Hells Canyon:		
Previous data	396	618
Revised study	404	626
Gain	8	8
Main Columbia River system:		
Previous data	4,623	4,620
Revised study	4,619	4,614
Gain of (loss)	(4)	(6)
Total gain	4	2
1934–35 hydro:		
Oxbow, Brownlee, Hells Canyon:		
Previous data	366	572
Revised study	373	575
Gain	7	3
Main Columbia River system:		
Previous data	5,840	5,849
Revised data	5,846	5,849
Gain or (loss)	6	
Total gain	13	3
Median month hydro:		
Oxbow, Brownlee, Hells Canyon:		
Previous data	432	688
Revised data	450	710
Gain	18	22
Main Columbia River system:		
Previous data	5,398	5,398
Revised data	5,393	5,395
Gain or (loss)	(5)	(3)
Total gain	13	19

Estimated benefits under proposed BPA and Idaho Power Co. storage exchange agreement

Contract year, May to April	Streamflow conditions	Idaho Power Co.								Bonneville Power Administration	
		Average annual capability		Gain from storage exchange							
		Independent operation	Assured capability under proposed agreement	Total amount stored	Total available for return	Credited to exchange account		Average annual capability realized under agreement	Gain from agreement	Net amount of storage returned	Gain from storage agreement [1]
		Megawatts	*Megawatts*	*Megawatt-hours*	*Megawatt-hours*	*Megawatt-hours*	*Megawatts*	*Megawatts*	*Megawatts*	*Megawatt-hours*	*Megawatts*
1962–63: Brownlee and Oxbow	1936–37	332	332	382, 512	382, 512	153, 005	17. 5	349. 5	17. 5	229, 507	26. 2
	1934–35	300	332	571, 896	295, 272	118, 109	13. 5	345. 5	45. 5	177, 163	20. 2
	Median	389	332	123, 048	123, 048	49, 220	5. 6	394. 6	5. 6	73, 828	8. 4
1964–65: Brownlee, Oxbow, and Low Hells Canyon.	1936–37	519	516	620, 328	620, 328	248, 131	28. 3	544. 3	25. 3	372, 197	42. 5
	1934–35	471	516	776, 784	544, 296	217, 718	24. 8	540. 8	69. 8	326, 578	37. 3
	Median	610	516	175, 648	175, 648	70, 260	8. 0	618. 0	8. 0	105, 388	12. 0

[1] In addition to the gain under the storage exchange agreement there also is a gain at Federal downstream plants from the release of Brownlee storage. This gain in megawatts is as follows:

	1962–63	1964–65
1936–37	46	43
1934–35	38	38
Median	46	49

NOVEMBER 14, 1956.

Mr. H. R. MOORE,
Idaho Power Co., Boise, Idaho.

DEAR MR. MOORE: Attached are the derivations of streamflows requested by Mr. Glenn Hall when I was in Boise several weeks ago. They are the net power flows for Brownlee, Hells Canyon, and Oxbow projects used in our power operation studies to determine benefits from coordination of the Brownlee, Oxbow, and Hells Canyon projects with the Federal system.

Subsequent to the time these studies were made new estimates of Snake River irrigation depletions have been made by the Water Management Subcommittee of the Columbia Basin Inter-Agency Committee. These revised depletion adjustments are incorporated in streamflow derivations for the Northwest Utilities Conference Committee report currently being prepared. We feel that use of the new depletion data would not materially change the results of the studies previously submitted to you since the principal benefits from integration of Brownlee project with the Federal system are due to the added storage.

We regret having delayed sending you these streamflow data and will be glad to supply any additional information we have which you feel will be useful in your studies.

Very truly yours,

H. M. MCINTYRE, *Hydraulic Operations Officer.*

Net power flows for Brownlee, Hells Canyon, and Oxbow projects—1960–61 through 1964–65 levels of development—Average monthly discharge in second-feet

Year and month	Observed flow, Snake River at Oxbow, Oreg. (1)	Evaporation losses from Brownlee Reservoir (2)	Snake River irrigation depletion adjustments (3)	Net power flows of Brownlee, Hells Canyon, and Oxbow (4)
1934–35:				
July	7,430	−110	870	8,190
August	7,420	−110	1,450	8,760
September	8,010	−60	2,690	10,640
October	9,240	−20	1,250	10,470
November	10,400		440	10,840
December	10,570		310	10,880
January	10,750		60	10,810
February	10,510		−540	9,970
March	11,550		310	11,860
April	17,870		−1,330	16,540
May	18,150	−50	−4,850	13,250
June	17,440	−80	−5,330	12,030
1936–37:				
July	8,440	−110	750	9,080
August	8,590	−110	1,500	9,980
September 1–15	9,610	−60	2,440	11,990
September, 16–30	10,420	−60	2,440	12,800
October	10,620	−20	1,560	12,160
November	11,110		1,560	12,670
December	10,860		240	11,100
January	10,220		110	10,330
February	12,000		20	12,020
March	14,300		−550	13,750
April 1–15	20,480		−5,930	14,550
April 16–30	23,120		−5,930	17,190
May	19,410	−50	−4,810	14,550
June	13,840	−80	−2,050	11,710
Median-month year:				
July	10,060	−110	440	10,390
August	8,590	−110	1,130	9,610
September	10,180	−60	2,280	12,400
October	12,860	−20	960	13,800
November	13,600		310	13,910
December	14,600		−320	14,280
January	14,270		−400	13,870
February	16,100		−730	15,370
March	19,650		290	19,940
April	25,430		−2,050	23,380
May	26,650	−50	−3,780	22,820
June	25,040	−80	−3,300	21,660

See explanations of columns (1), (2), (3), (4) of table on following page.

EXPLANATION OF COLUMNS

(1) From Geological Survey discharge records. Median-month year flows are selected from the 25-year period, July 1925 through June 1950.
(2) Reservoir evaporation losses are based on normal pool reservoir area and estimated average monthly net evaporation rates.
(3) Snake River irrigation depletion adjustments are the sum of adjustments for present development (1948) as shown in Report on Snake River Streamflow Depletion prepared by the Columbia Basin Interagency Committee, Technical Subcommittee for Operating Plan, May 1951, and additional adjustments to 1962-63 level based on USBR tabulation, "Estimated flow, Snake River at Oxbow, Oreg., with 367,000 acres of new land development, primarily ground water," dated May 20, 1952.
(4) The algebraic sum of columns (1), (2), and (3).

DRAFT PROPOSAL

Prepared by Bonneville Power Administration, April 1957

IDAHO

1. *Term of Agreement.* Subject to the other provisions contained herein, each of the provisions of this agreement shall be effective for the term of twenty (20) years commencing at the time Brownlee dam is completed and ready for regular operation.

2. *Definitions.*

(a) The term "storage drawdown period" for the purpose of this agreement means the period commencing September 16 in each year, in the term hereof, through April 15 in the immediately succeeding year.

(b) The term "storage refill period" for the purpose of this agreement means the period April 16 through September 15 in each year, in the term hereof.

(c) The term "system load requirements" means the system load requirements of the Company, excluding therefrom the sales of nonfirm hydroelectric energy by the Company to other utilities.

(d) The term "maximum hourly capability" of the Company's plants shall be deemed to be _____ kilowatts until changed as provided in section ____ and thereafter shall be deemed to be the capability as so determined.

3. *Exchange of Supplementary Excess Energy.*

(a) The Government shall make available to the Company at the point or points of delivery specified in and subject to the applicable terms of said exchange agreement (Contract No. 14–03–001–11493), during each day in each storage refill period during the term hereof and the Company shall accept from the Government, electric energy in the amount of the excess of the Company's system load requirements for such day over the actual output of the Company's generators for such day and such generators are to be operated in a manner that will assure that Brownlee reservoir will be full by September 15 of each year in the term hereof: *Provided, however,* That the Administrator may, but shall not be obligated to make available to the Company during any refill period electric energy in excess of 432,000,000 kilowatt-hours.

(b) The Government shall not be obligated to make electric energy available to the Company as provided in subsection (a) of this section during any hour at an integrated demand for such hour in excess of the smaller of:

(1) the number of kilowatts obtained by subtracting the actual output, in kilowatts of the Company's plants during such hour, from the maximum hourly capability of such plants (as defined in section 2 hereof), or

(2) the number of kilowatts specified by the Administrator if he determines that the capacity of the transmission and/or transformation facilities used by the Government in making deliveries hereunder is insufficient to enable the Government to deliver, during such hour, the amount of electric energy requested by the Company, together with the firm requirements of all other customers of the Government which are served by using a part or all of such facilities.

(c) If the Administrator, at any time or times after July 1, 1959, determines from schedules prepared by him that the total amount of power available for his disposition during any period beginning after July 1, 1965, will not be sufficient to supply the Government's other commitments he shall give written notice to the Company specifying the amount of the proposed reduction in the amount of kilowatt-hours specified in subsection (a) of this section, and the period during which such reduction is to be effective, but such period shall not begin before the later of: (i) July 1, 1965, or (ii) five (5) years from the time such notice is given: *Provided, however,* That such reduction shall not reduce the amount specified in subsection (a) of this section below 313,000,000 kilowatt-hours.

(d) The Company shall, at the request of the Government, make available to the Government, during each day in each storage release period in the term hereof when the balance in the supplementary exchange account (hereinafter defined) is in favor of the Government, at the point of delivery specified in and subject to the applicable terms and conditions of, said exchange agreement (Contract No. 14–03–001–11493), electric energy at a rate up to the Company's total system generation in excess of its system load requirements: *Provided, however,* That the Company shall not be obligated to make available such electric energy in amounts in excess of the capacity of the interconnecting transmission facilities of the parties hereto, or to generate electric energy at Brownlee plant in such amounts that discharge of water from storage in Brownlee reservoir exceeds the amounts usable to generate electric energy at the Company's Oxbow plant (when constructed and ready for regular operation).

4. *Supplementary Exchange Account and Settlement.*

(a) A supplementary exchange account will be established and maintained by the Administrator and he shall record therein the credits and debits to be made to the Government under this agreement. No credits or debits will be made in such account unless the deliveries made hereunder are made in accordance with a prior agreement of the dispatchers of the parties hereto and logged and recorded as such by the proper operator of such parties.

(b) The amount of electric energy delivered by the Government to the Company in accordance with subsection 3 (a) hereof, will be credited to the Government in the supplementary exchange account; *provided, however,* that is the balance due the Government is such account exceeds 313,000,000 kilowatt-hours at the end of the storage refill period, the excess of such balance over 313,000,000 kilowatt-hours shall be credited to the Government in the exchange account established by said Contract No. 14–03–001–11493, and the Government shall be debited in the supplementary exchange account with the amount of such excess.

(c) Subject to the provisions of subsection (g) of this section, on September 16 of each year during the term hereof, there shall be debited against the Government in the supplementary exchange account an amount determined by subtracting from credits entered in said account up to 313,000,000 kilowatt-hours, for the deliveries made by the Government to the Company for such year in accordance with subsection 3 (a) hereof, an amount obtained by dividing the above-mentioned credits by one and four-tenths (1.4).

(d) The amount of electric energy delivered to the Government by the Company in accordance with subsection (d) of section 3 hereof, will be debited against Government in the supplementary exchange account.

(e) During any month in each storage release period when the balance in the storage energy account is in favor of the Government and the Company desires to purchase a portion of such electric energy to serve its load requirements for such month, the Company will notify the Administrator in writing at least five (5) days prior to the beginning of such month specifying the amount of electric energy it wishes to purchase during such month from said supplementary exchange account. Upon receipt of such notice from the Company, the Administrator's dispatchers shall notify the Company's dispatchers of the amount of such electric energy in said supplementary exchange account, if any, the Government is willing to sell to the Company. The electric energy purchased by the Company in accordance with this subsection shall be credited to the Government in the exchange energy account established by said Contract No. 14–03–001–11493 and debited against the Government in said supplementary exchange account.

(f) If the balance in the supplementary exchange account is in favor of the Government when water is spilled from Brownlee reservoir or if water is released from Brownlee at the request of the Corps of Engineers, for the purpose of providing space for flood control, the Administrator will debit the Government in the supplementary exchange account with the number of kilowatt-hours, as determined by the Administrator, which is the lesser of: (1) the number of kilowatt-hours which could otherwise have been generated from the water so spilled or released, or (2) such balance then remaining in the supplementary exchange account.

(g) If a change in the rate specified in Bonneville Wholesale Energy Rate Schedule H–3 (attached hereto as Exhibit A) is effected by an amendment of such schedule or the adoption of a new rate schedule superseding said rate schedule, and if such amended or new rate schedule is substituted, as provided in said Contract No. 14–03–001–11493, for the rate schedule attached thereto as Exhibit A, the debit to be made against the Government in the supplementary exchange account as provided in subsection (c) of this section, after such change was effected, shall be computed as provided in said subsection (c) after substituting,

for the figure "one and four-tenths (1.4)" therein mentioned, the sum of one (1) plus the quotient obtained by dividing one (1) mill by the number of mills and fraction thereof to which such rate was changed.

APRIL 18, 1957.

Mr. A. C. INMAN,
Idaho Power Co., Boise, Idaho.

DEAR MR. INMAN: Attached are copies of the charts we discussed in Dr. Wm. A. Pearl's office in connection with the BPA-Idaho Power Co. storage contract. The charts show the deficit of the Idaho Power Co. in red and the surplus in blue. Also plotted on the charts are the Oxbow and Brownlee monthly generation in the critical year 1936–37 and the annual average.

The data for these charts were taken from the load resource studies submitted to you and discussed in previous meetings.

No attempt has been made to reregulate Brownlee storage to provide a more uniform surplus on the Idaho Power Co.'s system.

Very truly yours,

H. M. MCINTYRE,
Hydraulic Operations Officer.

IDAHO POWER CO.,
Boise, Idaho, May 21, 1957.

Dr. WILLIAM A. PEARL,
Administrator, Department of the Interior,
Bonneville Power Administration, Portland, Oreg.

DEAR DR. PEARL: For the purpose of recording the progress of our conferences in regard to an integration agreement, we have prepared the attached memorandum, which indicates our impression of the conclusions reached during the course of the meeting. If the contents of the memorandum are not in accord with your impressions of the meeting, I would appreciate hearing from you.

We are not able to supply you with any new information which has had enough consideration by our engineers to be in suitable form to present at this time. However, we will have some additional ideas to present to you at our meetings on May 28.

Yours very truly,

R. E. GALE, *Vice President.*

MEMORANDUM ON BONNEVILLE POWER ADMINISTRATION—IDAHO POWER CO. MEETING ON INTEGRATION AGREEMENT, MAY 14, 1957

The following men met in Portland on May 14, 1957:

Bonneville Power Administration:	Idaho Power Co.:
Dr. Wm. A. Pearl	R. E. Gale
Miller Evans	H. R. Moore
Lane Morthland	F. C. Harvey
Jack Joliffe	R. A. Hogg
H. M. McIntyre	

This meeting was for the purpose of establishing the principal benefits which might accrue to the Bonneville Power Administration and Idaho Power Co. systems in the event that integration was accomplished under a suitable contract. The construction of an integration contract was outlined to consist of three steps: (1) agreement on operating and engineering procedure to obtain integration benefits, (2) agreement on equitable division of benefits, and (3) stating the agreements of points (1) and (2) in a legal document in a manner consistent with the laws governing the contracting parties.

Prior to this meeting, studies had been made and presented to groups consisting of representatives from the Bonneville Power Administration, Army Engineers, Bureau of Reclamation, Federal Power Commission, Pacific Northwest Power Co. and Idaho Power Co. Studies prepared by Mr. McIntyre were used for comparison purposes and determination of integration benefits. The studies consisted of calculations as to the possible firm power capability of the two systems operated independently under water conditions which would represent the most adverse period for the northwest power pool (1936–37), the BPA system (1936–37), and the Idaho Power Co. (1934–35), and under median month water conditions.

Similar studies were also made of the two systems operating in coordination under the same water conditions as above. The objective of the study in every

case was to operate the hydro generating facilities with natural streamflow and storage water available to supply the maximum firm load capability under adverse water conditions. There was agreement among all parties that the methods used in the studies were appropriate.

In analyzing and comparing the studies, it was determined that integrated operation (the two systems operating together with the plants assumed in the study) would result in approximately 43 megawatts of additional firm power on the Bonneville system because of the coordinated operation of the Brownlee project. The Idaho Power Co. would be able to increase its winter load carrying capability approximately 119 megawatts (table VII, 1–25–56; table XI, 1–27–56). The operation of Brownlee storage for coordinated operation would result in a decrease of about 6 megawatts of average annual generation on the Idaho system. These figures were accepted by the group as being representative of the magnitude of the benefits of coordinating the generating resources.

In addition to these benefits, it was recognized by the groups that the characteristic of Idaho's load was to have a high summer energy requirement and low winter energy requirement, whereas the present load pattern of the BPA system and other Northwest systems reflects a high winter energy requirement and a low summer energy requirement. It was also recognized by the groups that, because of the nature of the Columbia River runoff and the location of the plants operated by BPA, there is a substantial surplus of summer energy on the BPA system.

The Idaho Power Co., through its present contractual arrangements with other members of the Northwest Power Pool, can obtain the energy necessary to enable the company to increase its winter firm load carrying capability in the same amount (approximately 119 megawatts) as it would be able to under an integration agreement with BPA. Under this type of operation, however, the operation of Brownlee storage would not necessarily be in coordination with the Bonneville system, and the Bonneville system would not obtain the approximate 43 megawatts of increased firm load carrying capability. Consequently, it appears to the interest and advantage of BPA to enter into a coordination agreement for some part of the increased firm power capability, and the advantage to the Idaho Power Co. would be in a possible lower cost of energy needed to increase its firm load carrying capability to the point indicated in the studies under coordinated operation.

In the discussion it appeared that there was agreement on the procedures necessary to obtain the above benefits as the first step necessary in constructing a contract. The division of the benefits and legal aspects appeared to be the most difficult problems. However, it was pointed out that, unless these two problems can be solved, full integration of the Northwest power generating systems cannot be accomplished.

The meeting adjourned for the parties to endeavor to work out a suitable and equitable settlement that might be incorporated in a coordination agreement.

R. A. Hogg.

Coordination of Brownlee Reservoir

Critical year energy interchange to maintain allocation of 405 megawatts of prime power to Idaho Power Co.

[In megawatts]

Month	Total Idaho load	Existing Idaho resources	Residual load	Allocated surplus		Allocated to Idaho		Brownlee and Ox, bow capability	Idaho interchange			
									In		Out	
July	582	260	322	150	125	472	447	266	206	181		
August	574	261	313	150	125	463	438	292	171	146		
Sept. 1–15	534	277	257	150	125	407	382	351	56	31		
Sept. 16–30	534	277	257	150	125	407	382	375	32	7		
October	468	221	247	150	125	397	372	356	41	16		
November [1]	471	220	251	150	125	401	376	372	29	4		
December [1]	476	221	255	150	125	405	380	326	79	54		
January [1]	494	215	279	150	125	429	404	324	105	80		
February [1]	479	203	276	150	125	426	401	512			86	111
March	467	226	241	150	125	391	366	526			135	160
Apr. 1–15	488	276	212	150	125	362	337	452			90	115
Apr. 16–30	488	276	212	150	125	362	337	174	188	163		
May	548	288	260	150	125	410	385	143	267	242		
June	575	244	331	150	125	481	456	231	250	225		
Storage season average			255	150	125	405	380	404	39	23	38	47

[1] Storage release season.

1936–37 streamflow—1962–63 level of operations—costs and nominal prime capability

Plant	Capability of initial base system, megawatts		Capability of coordinated system, megawatts		Incremental capability, megawatts		Incremental installation		Incremental annual cost	
	Nominal prime	February peak [1]	Nominal prime	April peak [1]	Nominal prime	Critical peak	Number of units	Nameplate rating, megawatts	Dollars per kilowatt	$1,000
Non-Federal Columbia River plants [2]	724	1,165	724	1,165	0	0	0	0		
Brownlee			282	253	282	253	4.00	360.4		[3] 7,560
Oxbow			122	226	122	226	4.00	190.0		[3] 2,880
Subtotal			404	479	404	479	8.00	550.4		10,440
Federal plants with fixed installation:										
Hungry Horse	212	167	212	146	0	−21	0	0		0
Albeni Falls	22	13	22	15	0	2	0	0		0
Grand Coulee	1,267	1,714	1,258	1,416	−9	−298	0	0		0
Bonneville	404	570	413	570	9	0	0	0		0
Subtotal	1,905	2,464	1,905	2,147	0	−317	0	0		0
Other Federal plants:										
Chief Joseph	710	[4] 937	710	[4] 1,002	0	65	0.88	57.0	[5] 5.39 6.96	310 400
McNary	[6] 524	[4] 692	540	[4] 763	16	71	.88	62.0	[5] 6.54 12.40	410 770
The Dalles	[6] 566	[4] 748	583	[4] 824	17	76	.85	66.0	[5] 5.53 7.96	370 530
Ice Harbor	[6] 139	[4] 184	157	[4] 222	18	38	.37	33.0	[5] 6.23 10.56	210 350
Subtotal	1,939	[4] 2,561	1,990	[4] 2,811	51	250		218.0		1,300 2,050
Total Federal	3,844	5,025	3,895	4,958	51	−67		218.0		1,300 2,050
Total Federal+Brownlee and Oxbow			4,299	5,437	455	412		768.4		11,740 12,490
Total	4,568	[7] 6,190	5,023	[7] 6,602	455	412		768.4		11,740 12,490

[1] Month with minimum surplus of peaking capability.
[2] Kerr, Thompson Falls, Noxon Rapids, Cabinet Gorge, Box Canyon, and Rock Island.
[3] Annual cost factor of 12 percent applied to capital costs given in Idaho Power Co. data sheets of August 1956 as follows: Brownlee, $63,000,000 and Oxbow, $24,000,000.
[4] Peaking requirement distributed on a basis of uniform plant factor.
[5] Does not include joint costs.
[6] Reduced an aggregate of 5 megawatts by incidental effects of Brownlee.
[7] Required peaking for the integrated system. Equals peak load in critical month plus average energy surplus over the storage release period.

$$\frac{2,050}{12,490}\times 455 = 75$$

$$\frac{10,440}{12,490}\times 455 = \frac{380}{455}$$

FACT SHEET ON IDAHO-BPA COORDINATION STUDIES

Idaho Power Co.

INSTALLATIONS

	Nameplate rating	Peak capability
	Kilowatts	*Kilowatts*
Present system	347,550	365,210
Brownlee	360,400	414,400
Oxbow	190,000	[1] 226,000
Hells Canyon	341,000	[2] 400,000
Total	1,238,950	1,405,610

STORAGE FACILITIES

Brownlee storage:	
Acre-feet	1,000,000
SFD	504,000

STORAGE EQUIVALENTS [4]

1,000,000 acre-feet of Brownlee storage through:	
Idaho Power Co. plants:	*Kilowatt hours*
Brownlee	212,444,500
Oxbow	101,058,800
Hells Canyon	183,456,800
Total	496,960,100
Federal plants:	
Ice Harbor	83,609,800
McNary	76,339,400
The Dalles	76,339,400
Bonneville	52,104,600
Total benefit to Federal plants	288,393,200

INSTALLATION SCHEDULES [3]

	Unit	Nameplate rating	Dates of installation
		Kilowatts	
Brownlee	1	90,100	October 1958.
	2	180,200	November 1958.
	3	270,300	December 1958.
	4	360,400	January 1959.
Oxbow	1	47,500	May 1961.
	2	95,000	June 1961.
	3	142,500	July 1961.
	4	190,000	August 1961.
Hells Canyon	1	68,200	April 1964.
	2	136,400	May 1964.
	3	204,600	June 1964.
	4	272,800	July 1964.
	5	341,000	August 1964.

	Kilowatt-hours	With Federal plants (kilowatt-hours)
Brownlee	212,444,500	500,837,700
Brownlee and Oxbow	313,503,300	601,896,500
Brownlee, Oxbow, and Hells Canyon	496,960,100	785,353,300

[1] The revised Oxbow peaking capability of 226,000 kilowatts, per letter to J. P. Jolliffe on coordination of Idaho Power Co. and Northwest Power Co. middle Snake River plants by H. M. McIntyre, dated May 18, 1956.

[2] Hells Canyon peaking capability was estimated to coincide with the revised Oxbow peaking capability.

[3] Revised installation schedule, July 22, 1957.

[4] Based on coordinated operation of Brownlee Reservoir, 1964–65, 1936–37 hydro, dated June 1, 1956. H/K used for the run of the river dams are as follows:

Plants:	*H/K*
Oxbow	8.34
Hells Canyon	15.14
Ice Harbor	6.90
McNary	6.30
The Dalles	6.30
Bonneville	4.30

COORDINATION AND INDEPENDENT OPERATION

[In megawatts]

Idaho Power Co.	1936–37		1934–35		Median month	
	Nominal prime [4]	Annual average	System prime [5]	Annual average	Storage season [6]	Annual average
1962–63:						
Coordinated operation: [7]						
Present system	230	234	208	209	250	252
Brownlee	282	232	252	212	306	278
Oxbow	122	102	114	95	144	133
Total	634	568	574	516	700	663
Independent operation: [8]						
Present system	230	234	208	209	250	252
Brownlee	215	229	190	207	213	262
Oxbow	101	103	90	93	118	127
Total	546	566	488	509	581	641
Gain	88	2	86	7	119	22
1964–65:						
Coordinated operation: [9]						
Present system	230	234	208	209	250	252
Brownlee	282	232	252	212	306	278
Oxbow	122	102	114	95	144	133
Hells Canyon	222	184	206	172	260	242
Total	856	752	780	688	960	905
Independent operation: [10]						
Present system	230	234	208	209	250	252
Brownlee	217	232	194	209	207	252
Oxbox	100	102	90	93	122	127
Hells Canyon	182	185	165	169	222	231
Total	729	753	657	680	801	862
Gain	127	−1	123	8	159	43

[4] Nominal prime for storage-control season, Sept. 16 through Apr. 15.
[5] System average for storage-control season, September through April.
[7] Based on coordinated operation of Brownlee Reservoir, 1962–63, 1936–37, 1934–35, and median-month hydro, dated May 31, 1956, June 27, 1956, and June 13, 1956, respectively.
[8] Based on Idaho Power Co. 1962–63 independent operations, 1936–37, 1934–35, and median-month hydro, dated Jan. 26, 1956, Mar. 14, 1956, and Jan. 20, 1956, respectively.
[9] Based on coordinated operation of Brownlee Reservoir, 1964–65, 1936–37, 1934–35, and median-month hydro, dated June 1, 1956, July 6, 1956, and June 15, 1956, respectively.
[10] Based on Idaho Power Co. 1964–65 independent operations, 1936–37, 1934–35, and median-month hydro, dated Jan. 27, 1956, Mar. 14, 1956, and Jan. 27, 1956, respectively.
[11] Based on NWUCC analysis without Idaho Power Co. Snake River plants, 1962–63, 1936–37, and 1934–35 hydro, dated Jan. 26, 1956, and Mar. 20, 1956, respectively.
[12] Based on NWUCC analysis without Idaho Power Co. Snake River plants, 1964–65, 1936–37, and 1934–35 hydro, dated Jan. 26, 1956, and Mar. 22, 1956, respectively.
[13] Estimated from NWUCC analysis, 1962–63 and 1964–65, median-month hydro, dated Oct. 6 and 7, 1955, respectively, by deducting the downstream storage benefits from Brownlee Reservoir of 49 megawatts.

Idaho Power Co. With Coordination of Brownlee Reservoir

Critical year energy interchange—1962–63 loads and resources

[Megawatts]

Month	Existing Idaho resources	Brownlee and Oxbow capability	Total Idaho resources	Estimated Idaho load	Idaho requirements	Storage interchange		Other interchange		Idaho surplus
						In [1]	Out [2]	In	Out	
July	260	266	526	582	56	143				87
August	261	292	553	574	21	105		3		87
Sept. 1–15	277	351	628	534	−94			−7		87
16–30	277	375	652	534	−118		31			87
October	221	356	577	468	−109		22			87
November	220	372	592	471	−121		34			87
December	221	326	547	476	−71	16				87
January	215	324	539	494	−45	42				87
February	203	512	715	479	−236		150			86
March	226	526	752	467	−285		199			86
Apr. 1–15	276	452	728	488	−240		154			86
16–30	276	174	450	488	38	124				86
May	288	143	431	548	17	103				86
June	244	231	475	575	100	186				86
Storage season average		404	630	481	−149	8	71			87

[1] 438,906,000 kilowatt-hours over the refill season which is 1.4x313,503,000 kilowatt-hours.
[2] 313,503,000 kilowatt-hours over the storage release season net.

Median month year energy interchange—1962–63 loads and resources

[Megawatts]

Month	Existing Idaho resources	Brownlee and Oxbow capability	Total Idaho resources	Estimated Idaho load	Idaho requirements	Storage interchange		Other interchange		Idaho surplus
						In [1]	Out [2]	In	Out	
July	299	305	574	582	8	191				183
August	268	282	550	574	24	207				183
September	259	363	622	534	−88	72				160
October	237	404	641	468	−173		13			160
November	246	437	683	471	−212		52			160
December	246	510	756	476	−280		120			160
January	264	526	790	494	−296		136			160
February	269	486	755	479	−276		116			160
March	273	420	693	467	−227		67			160
April	306	449	755	488	−267					267
May	295	502	797	548	−249					249
June	308	251	559	575	16	198				182
Storage season average	256	450	706	484	−222					

[1] 438,906,000 kilowatt-hours over the refill season which is 1.4×313,503,000 kilowatt hours.
[2] 313,503,000 kilowatt-hours net over the storage release season.

Integration benefits if Idaho receives energy for filling and holding Brownlee storage with prepayment of service charge critical year storage season—1962–63 loads and resources

[Megawatts]

	1936–37	1934–35
Idaho Power Co.:		
Isolated operation:		
Brownlee	215	207
Oxbow	101	93
Present system	230	209
Bureau of reclamation surplus	−4	−4
Total	542	505
Coordinated operation	568	600
Gain	26	95
United States Columbia River Power System:		
Isolated operation	3,844	4,845
Coordinated operation	3,895	4,886
Gain in generation	51	41
Integration energy from Idaho	63	[1] −5
Total gain	114	36

[1] Reduced by energy necessary to hold Idaho to its level of capability in the pool critical year.

Energy interchange with 1934–35 hydro—1962–63 loads and resources

[Megawatts]

Month	Existing Idaho resources	Brownlee and Oxbow capability	Total Idaho resources	Estimated Idaho load	Idaho requirements	Storage interchange		Other interchange in [3]	Idaho surplus
						In [1]	Out [2]		
July	232	240	472	582	110	100		97	87
August	216	257	473	574	101	92		96	87
September	179	312	491	534	43	71		59	87
October	198	307	505	468	−37		9	59	87
November	206	318	524	471	−53		25	59	87
December	203	319	522	476	−46		18	59	87
January	203	317	520	494	−26	2		59	87
February	189	413	602	479	−123		95	59	87
March	192	527	719	467	−252		223	58	87
April	189	465	654	488	−166		137	58	87
May	205	120	325	548	223	214		96	87
June	237	139	376	575	199	190		96	87
Storage season average	195	373	567	485	−82	9	63		

[1] 438,906,000 kilowatt-hours over the refill season which is 1.4×313,503,000 kilowatt-hours.
[2] 313,503,000 kilowatt-hours net over the storage release season.
[3] Results in net receipts by Idaho of 750,891,000 kilowatt-hours for the year.

Integration benefits if Idaho receives energy for filling and holding Brownlee storage with prepayment of service charge critical year storage season—1962–63 loads and resources

[Megawatts]

	1936–37 [1]	1934–35 [2]
Idaho Power Co.:		
Isolated operation:		
Brownlee	215	207
Oxbow	101	93
Present system	230	209
Bureau of Reclamation surplus	−4	−4
Total	542	505
Coordinated operation	568	600
Gain	26	95
United States Columbia River power system:		
Isolated operation	3,844	5,012
Coordinated operation	3,895	5,064
Gain in generation	51	52
Integration energy from Idaho	63	[3] −5
Total gain	114	47

[1] Critical season is Sept. 16 through Apr. 15.
[2] Critical season is Sept. 1 through Apr 30 for United States-Columbia River power system and entire year for Idaho Power Co.
[3] Reduced by energy necessary to hold Idaho to its level of capability in the pool critical year.

Mainstem, Columbia River system

[Megawatts]

	1936–37 nominal prime [4]	1934–35 storage season [5]	Median month, storage season [6]
1962–63:			
Columbia River system without Brownlee and Oxbow [11]	4,573	5,808	[12] 5,347
Columbia River system with coordinated operation of Brownlee and Oxbow [7]	4,619	5,846	5,393
Gain with addition and coordination of Brownlee and Oxbow	46	38	46
Loss if Brownlee and Oxbow operate independently [8]	5	17	15
Total system gain coordinated over independent operation	51	55	61
1964–65:			
Columbia River system without Brownlee, Oxbow, and Hells Canyon [13]	4,571	5,811	[12] 5,346
Columbia River system with coordinated operation of Brownlee, Oxbow, and Hells Canyon [9]	4,614	5,849	5,395
Gain with addition and coordination of Brownlee, Oxbow, and Hells Canyon	43	38	49
Loss if Brownlee and Oxbow operate independently [10]	6	15	3
Total gain coordinated over independent operation	49	55	52

See footnotes on p. 22.

Critical-year energy interchange to maintain allocation of 405 megawatts of prime power to Idaho Power Co.

[Megawatts]

Month	Total Idaho load	Existing Idaho resources	Residual load	Allocated surplus	Allocated to Idaho	Brownlee and Oxbow capability	Idaho interchange	
							In	Out
July	582	260	322	150 125	472 447	266	206 181	
August	574	261	313	150 125	463 438	292	171 146	
Sept. 1–15	534	277	257	150 125	407 382	351	56 31	
Sept. 16–30 [1]	534	277	257	150 125	407 382	375	32 7	
October	468	221	247	150 125	397 372	356	41 16	
November [1]	471	220	251	150 125	401 376	372	29 4	
December [1]	476	221	255	150 125	405 380	326	79 54	
January [1]	494	215	279	150 125	429 404	324	105 80	
February [1]	479	203	276	150 125	426 401	512		86 111
March [1]	467	226	241	150 125	391 366	526		135 160
Apr. 1–15 [1]	488	276	212	150 125	362 337	452		90 115
Apr. 16–30	488	276	212	150 125	362 337	174	188 163	
May	548	288	260	150 125	410 385	143	267 242	
June	575	244	331	150 125	481 456	231	250 225	
Storage-season average			255	150 125	405 380	404	39 23	38 47

[1] Storage-release season.

OFFICE MEMORANDUM—UNITED STATES GOVERNMENT

AUGUST 19, 1957.

To: Mr. J. P. Jolliffe 3–SW.
From: William A. Pearl.
Subject: Meeting with Idaho Power Co., Wednesday, August 21, 8:30 a. m.

In accordance with our discussion at the meeting this morning, I called Mr. Nelson in Boise. He is planning to send Mr. Austin to attend our meeting with Idaho Power Co. Wednesday morning. Mr. Austin probably will come in early so that he can talk with you Tuesday afternoon.

WM. A. PEARL, *Administrator.*

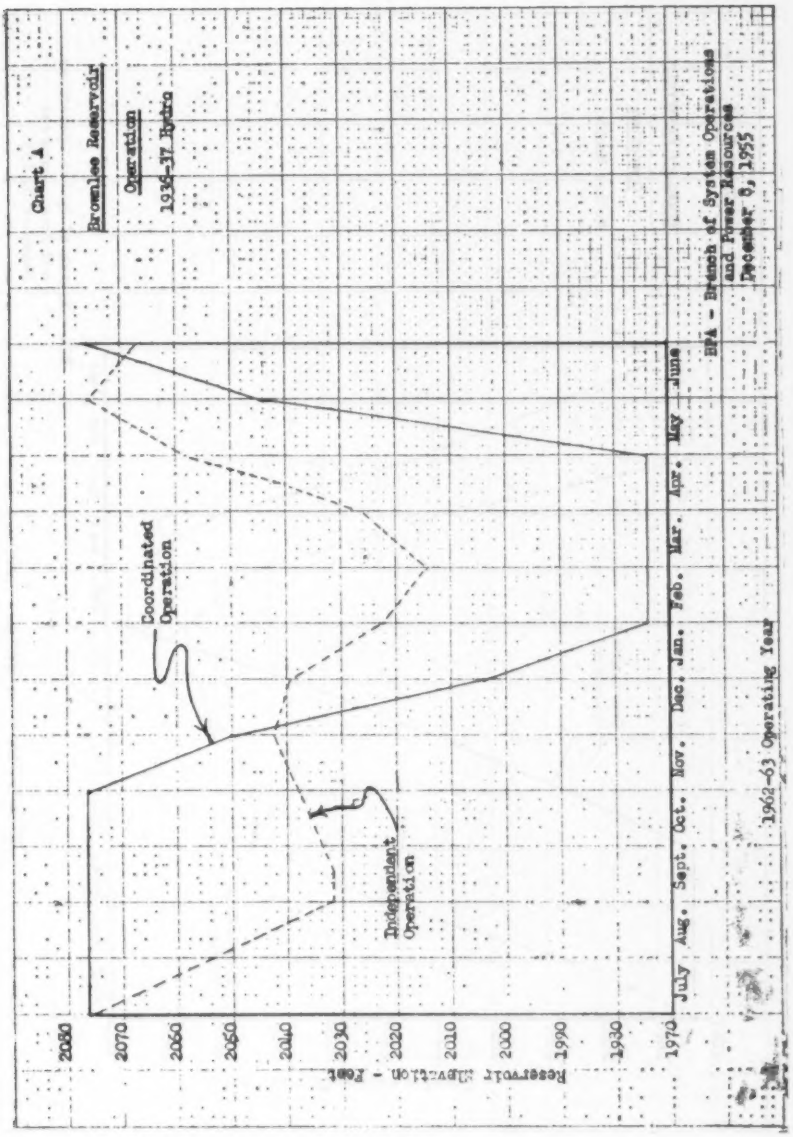
Chart 4
Dworshak Reservoir
Operation
1936-37 Hydro
Coordinated Operation
Independent Operation
Reservoir Elevation - Feet
2080
2070
2060
2050
2040
2030
2020
2010
2000
1990
1980
1970
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1962-63 Operating Year
BPA - Branch of System Operations
and Power Resources
December 8, 1955

25098—58——3

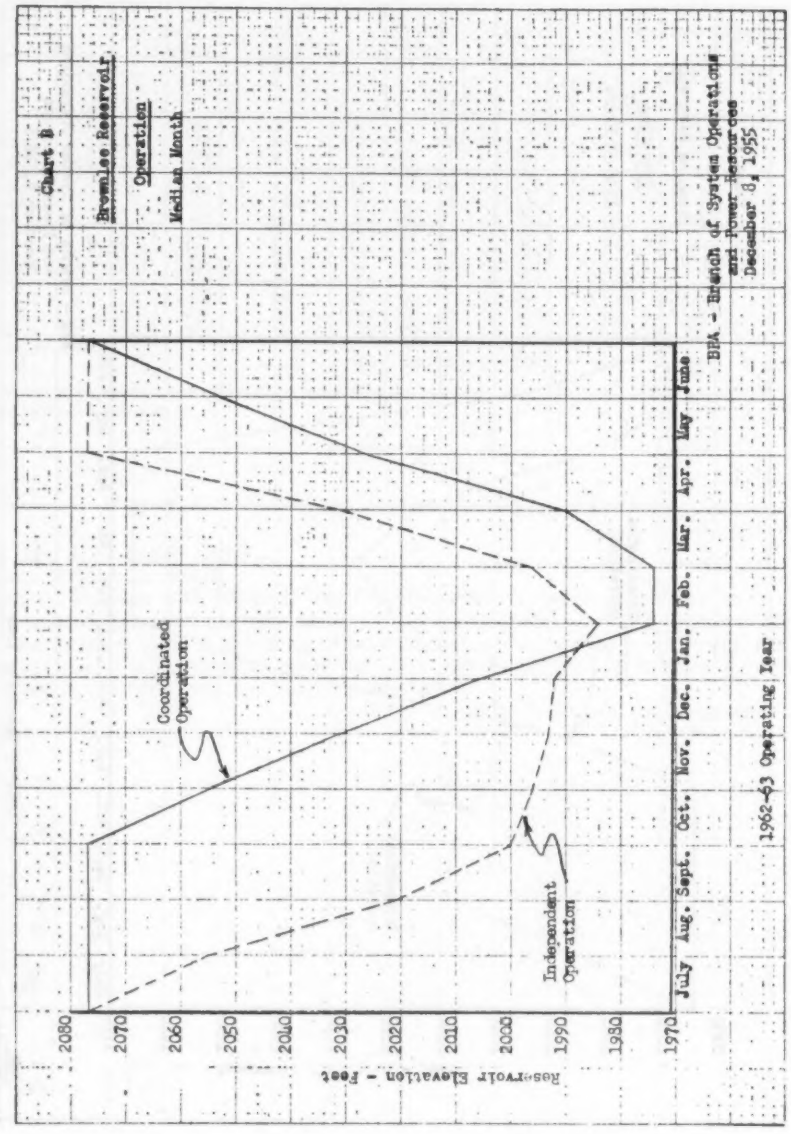
Chart B
Bromlee Reservoir
Operation
Mid-Am Month
BPA - Branch of System Operations and Power Resources
December 8, 1955
Coordinated Operation
Independent Operation
Reservoir Elevation - Feet
2080
2070
2060
2050
2040
2030
2020
2010
2000
1990
1980
1970
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1962-63 Operating Year

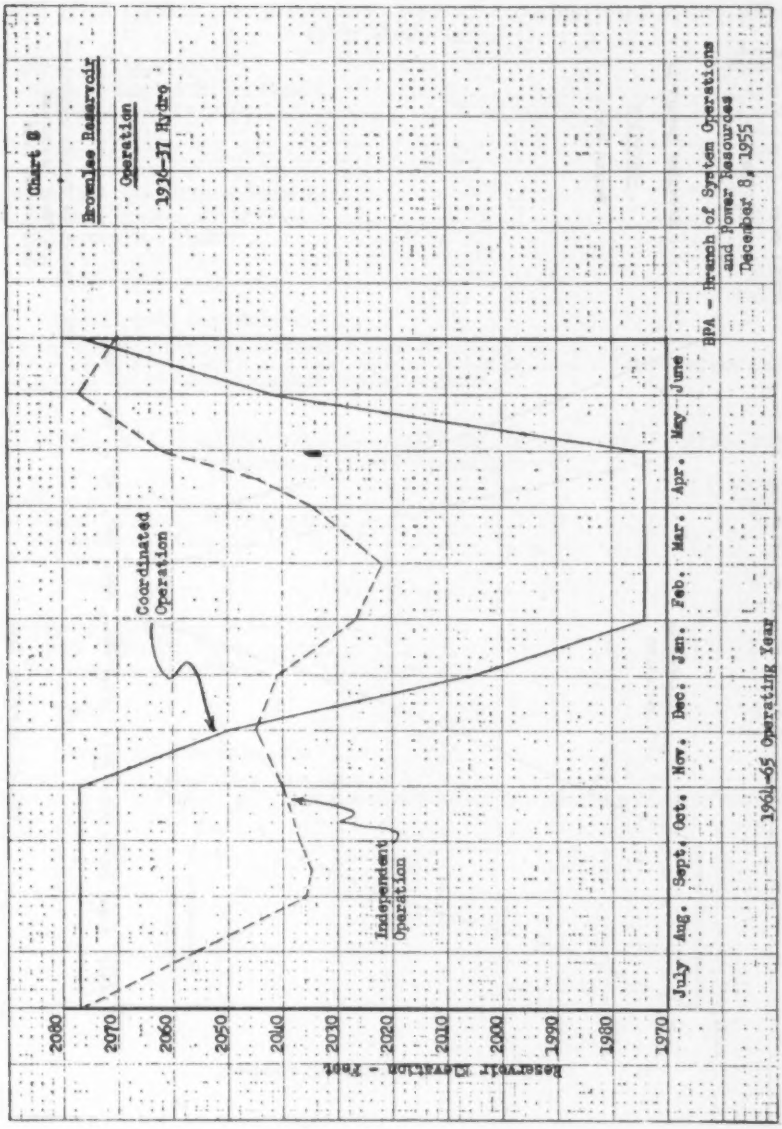
Chart 8
Brownlee Reservoir
Operation
1936-37 Hydro
Coordinated Operation
Independent Operation
Reservoir Elevation - Feet
2080
2070
2060
2050
2040
2030
2020
2010
2000
1990
1980
1970
July
Aug.
Sept.
Oct.
Nov.
Dec.
Jan.
Feb.
Mar.
Apr.
May
June
1964-65 Operating Year
BPA - Branch of System Operations
and Power Resources
December 8, 1955

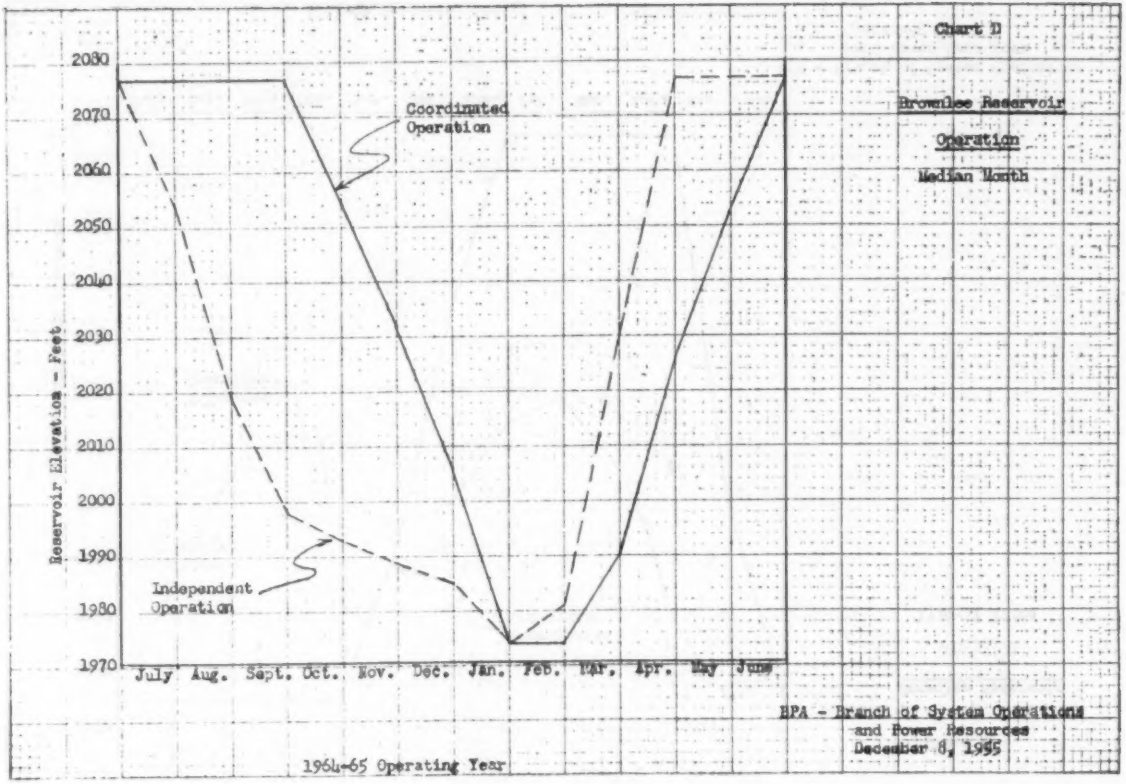
Chart D
Brownlee Reservoir
Operation
Median Month
Coordinated Operation
Independent Operation
Reservoir Elevation - Feet
2080
2070
2060
2050
2040
2030
2020
2010
2000
1990
1980
1970
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1964-65 Operating Year
BPA - Branch of System Operations
and Power Resources
December 8, 1965

FIRST REVISION

BENEFIT FROM COORDINATION OF BROWNLEE WITH NORTHWEST POWER POOL

TABLE I.—*Minimum-year streamflows—1962–63 operating year—System prime-power capability* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	4,623
Brownlee and Oxbow	396
Total	5,019
Independent operation of Brownlee:	
Main Columbia River system	4,561
Brownlee and Oxbow	316
Total	4,877
Benefit from coordination [2]	142

[1] Average capability during storage-drawdown season (Sept. 15 through Apr. 15).
[2] Annual loss at Brownlee and Oxbow with coordinated operation amounts to 3 average megawatts but can be made up with summertime secondary from Federal system.

TABLE II.—*Median-month streamflows—1962–63 operating year—Average capability during storage-drawdown period* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	5,398
Brownlee and Oxbow	432
Total	5,830
Independent operation of Brownlee:	
Main Columbia River system	5,332
Brownlee and Oxbow	331
Total	5,663
Benefit from coordination [2]	180

[1] Storage drawdown period is Sept. 1 through Mar. 31
[2] Annual benefit at Brownlee and Oxbow with coordinated operation amounts to 29 average megawatts.

TABLE III.—*Minimum-year streamflows—1964-65 operating year—System prime-power capability* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	4,620
Brownlee, Oxbow, and Hells Canyon	618
Total	5,238
Independent operation of Brownlee:	
Main Columbia River system	4,558
Brownlee, Oxbow, and Hells Canyon	499
Total	5,057
Benefit from coordination [2]	181

[1] Storage drawdown period is Sept. 16 through Apr. 15.
[2] Annual loss at Brownlee, Oxbow, and Hells Canyon with coordinated operation amounts to 6 average megawatts but can be made up with summertime secondary from the Federal system.

TABLE IV.—*Median-month streamflows—1964-65 operating year—Average capability during storage-drawdown period* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	5,398
Brownlee, Oxbow, and Hells Canyon	688
Total	6,086
Independent operation of Brownlee:	
Main Columbia River system	5,343
Brownlee, Oxbow, and Hells Canyon	551
Total	5,894
Benefit from coordination [2]	192

[1] Storage-drawdown period is Sept. 1 through Mar. 31.
[2] Annual benefit at Brownlee, Oxbow, and Hells Canyon with coordinated operation amounts to 50 average megawatts.

IDAHO POWER CO., LOADS AND RESOURCES

TABLE V.—*With integrated Brownlee regulation*

[1962–63, 1936–37 hydro, with Brownlee regulation]

	July	August	Sept. 1–15	Sept. 16–30	October	November	December	January	February	March	Apr. 1–15	Apr. 16–30	May	June
Average:														
Idaho Power Co., load	582	574	534	534	468	471	476	494	479	467	488	488	548	575
Present system hydro	230	232	227	227	230	229	233	223	212	229	282	282	257	220
Brownlee generation	190	209	251	268	255	266	233	304	331	279	237	207	81	100
Oxbow generation	76	83	100	107	101	106	93	125	151	151	151	139	42	42
U. S. Bureau of Reclamation, surplus or deficiency)	30	29	50	50	(9)	(9)	(12)	(8)	(9)	(3)	(6)	(6)	31	24
Total hydro	526	553	628	652	577	592	547	644	685	656	664	622	411	386
Surplus or (deficiency)	(56)	(21)	94	118	109	121	71	150	206	189	176	134	(137)	(189)
Peak:														
Idaho Power Co., load	772	769	731	731	645	663	670	692	654	627	667	667	744	783
Present system hydro	358	359	360	360	362	362	362	360	361	361	360	360	359	358
Brownlee generation	414	414	414	414	414	414	414	414	380	285	248	253	414	414
Oxbow generation	174	174	174	174	174	174	174	174	174	174	174	174	174	174
U. S. Bureau of Reclamation, surplus	26	11	19	19	67	111	112	115	120	123	79	79	28	27
Total hydro	972	958	967	967	1,017	1,061	1,062	1,063	1,035	943	861	866	975	973
Surplus	200	189	236	236	372	398	392	371	381	316	194	199	231	190

TABLE VI.—*With integrated Brownlee regulation*

[1962–63 median month hydro with Brownlee regulation]

	July	August	September	October	November	December	January	February	March	April	May	June
Average:												
Idaho Power Co., load	582	574	534	468	471	476	494	479	467	488	548	575
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Brownlee generation	218	202	260	320	358	329	288	243	238	285	335	342
Oxbow generation	87	80	103	129	151	151	151	151	151	151	151	141
U. S. Bureau of Reclamation surplus or (deficiency)	30	29	19	(6)	(5)	(7)	3	15	27	25	38	43
Total hydro	574	550	622	686	755	726	703	663	662	742	781	791
Surplus or (deficiency)	(8)	(24)	88	218	284	250	209	184	195	254	233	216
Peak:												
Idaho Power Co., load	772	769	731	645	663	670	692	654	627	667	744	783
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Brownlee generation	414	414	414	414	414	394	302	248	288	398	414	414
Oxbow generation	174	174	174	174	174	174	174	174	174	174	174	174
U. S. Bureau of Reclamation surplus or (deficiency)	26	11	(13)	77	118	115	115	120	123	81	28	27
Total hydro	973	958	936	1,027	1,068	1,045	951	903	946	1,014	975	974
Surplus	201	189	205	382	405	375	259	249	319	347	231	191

TABLE VII.—*With integrated Brownlee regulation*

[1964–65, 1936–37 hydro, with Brownlee regulation]

	July	August	September 1–15	September 16–30	October	November	December	January	February	March	April 1–15	April 16–30	May	June
Average:														
Idaho Power Co. load	636	626	582	582	507	510	516	538	520	506	529	529	598	628
Present system hydro	230	232	227	227	230	229	233	223	212	229	282	282	257	220
Brownlee generation	190	209	251	268	255	266	233	304	331	279	237	207	81	100
Oxbow generation	76	83	100	107	101	106	93	125	151	151	151	139	42	42
Hells Canyon generation	137	151	182	194	184	192	168	227	274	274	274	253	76	76
U. S. Bureau of Reclamation surplus or (deficiency)	24	22	43	43	(15)	(16)	(20)	(13)	(17)	(8)	(13)	(13)	26	19
Total hydro	657	697	803	839	755	777	707	866	951	925	931	868	482	457
Surplus or (deficiency)	21	71	221	257	248	267	191	328	431	419	402	339	(116)	(171)
Peak:														
Idaho Power Co. load	847	843	801	801	703	723	732	756	713	683	727	727	815	859
Present system hydro	358	359	360	360	362	362	362	360	361	361	360	360	359	358
Brownlee generation	414	414	414	414	414	414	414	414	380	285	248	253	414	414
Oxbow generation	174	174	174	174	174	174	174	174	174	174	174	174	174	174
Hells Canyon generation	240	300	300	300	300	300	300	300	300	300	300	300	300	300
U. S. Bureau of Reclamation surplus or (deficiency)	15	(1)	8	8	56	99	101	106	111	114	69	69	20	19
Total hydro	1,201	1,246	1,256	1,256	1,306	1,349	1,351	1,354	1,326	1,234	1,151	1,156	1,267	1,265
Surplus	354	403	455	455	603	626	619	598	613	551	424	429	452	406

TABLE VIII.—*With integrated Brownlee regulation*

[1964–65, median month hydro with Brownlee regulation]

	July	August	September	October	November	December	January	February	March	April	May	June
Average:												
Idaho Power Co. load	636	626	582	507	510	516	538	520	506	529	598	628
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Brownlee generation	218	202	260	320	358	329	288	243	238	285	335	342
Oxbow generation	87	80	103	129	151	151	151	151	151	151	151	141
Hells Canyon generation	157	146	188	234	274	274	274	274	274	274	274	256
U. S. Bureau of Reclamation surplus or (deficiency)	24	22	12	(12)	(12)	(15)	(2)	9	22	18	33	38
Total hydro	725	689	803	914	1,022	992	972	931	931	1,009	1,050	1,042
Surplus	89	63	221	407	512	476	434	411	425	480	452	414
Peak:												
Idaho Power Co. load	847	843	801	703	723	732	756	713	683	727	815	859
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Brownlee generation	414	414	414	414	414	394	302	248	288	398	414	414
Oxbow generation	174	174	174	174	174	174	174	174	174	174	174	174
Hells Canyon generation	240	300	300	300	300	300	300	300	300	300	300	300
U. S. Bureau of Reclamation surplus or (deficiency)	15	(1)	(24)	66	106	104	106	111	114	71	20	19
Total hydro	1,202	1,246	1,225	1,316	1,356	1,334	1,242	1,194	1,237	1,304	1,267	1,266
Surplus	355	403	424	613	633	602	486	481	554	577	452	407

TABLE IX.—*Independent operation*

[1962–63, 1936–37 hydro]

	July	August	Sept. 1–15	Sept. 16–30	October	November	December	January	February	March	Apr. 1–15	Apr. 16–30	May	June
Average:														
Idaho Power Co. load	582	574	534	534	468	471	476	494	479	467	488	488	548	575
Present system hydro	230	232	227	227	230	229	233	223	212	229	282	282	257	220
Mid-Snake plants	383	374	318	318	308	312	316	340	337	302	273	273	325	392
U. S. Bureau of Reclamation surplus or (deficiency)	30	29	50	50	(9)	(9)	(12)	(8)	(9)	(3)	(6)	(6)	31	24
Total hydro	643	635	595	595	529	532	537	555	540	528	549	549	613	636
Surplus	61	61	61	61	61	61	61	61	61	61	61	61	65	61
Peak:														
Idaho Power Co. load	772	769	731	731	645	663	670	692	654	627	667	667	744	783
Present system hydro	358	359	360	360	362	362	362	360	361	361	360	360	359	358
Mid-Snake plants	588	588	588	588	588	588	588	570	543	583	588	588	588	588
U. S. Bureau of Reclamation surplus	26	11	19	19	67	111	112	115	120	123	79	79	28	27
Total hydro	972	958	967	967	1,017	1,061	1,062	1,045	1,024	1,067	1,027	1,027	975	973
Surplus	200	189	236	236	372	398	392	353	370	440	360	360	231	190

TABLE X.—*Independent operation*

[1962-63, median month hydro]

	July	August	Septem, ber	October	Novem- ber	Decem- ber	January	February	March	April	May	June
Average:												
Idaho Power Co. load	582	574	534	468	471	476	494	479	467	488	548	575
Present system hydro	239	239	240	243	251	253	251	254	246	281	257	265
Mid-Snake plants	416	409	378	334	328	333	333	313	297	508	511	511
U. S. Bureau of Reclamation surplus or (deficiency)	30	29	19	(6)	(5)	(7)	3	15	27	25	38	43
Total hydro	685	677	637	571	574	579	597	582	570	814	806	819
Surplus	103	103	103	103	103	103	103	103	103	326	258	244
Peak:												
Idaho Power Co. load	772	769	731	645	663	670	692	654	627	667	744	783
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Mid-Snake plants	588	563	499	488	482	474	451	479	588	588	588	588
U. S. Bureau of Reclamation surplus or (deficiency)	26	11	(13)	77	118	115	115	120	123	81	28	27
Total hydro	973	933	847	927	962	951	926	960	1,072	1,030	975	974
Surplus	201	164	116	282	299	281	234	306	445	363	231	191

TABLE XI.—*Independent operation*

[1964-65, 1936-37 hydro]

	July	August	Sept. 1–15	Sept. 16–30	October	November	December	January	February	March	Apr. 1–15	Apr. 16–30	May	June
Average:														
Idaho Power Co. load	636	626	582	582	507	510	516	538	520	506	529	529	598	628
Present system hydro	230	232	227	227	230	229	233	223	212	229	282	282	257	220
Mid-Snake plants	579	569	509	509	489	494	500	525	522	482	457	457	520	586
U. S. Bureau of Reclamation surplus or (deficiency)	24	22	43	43	(15)	(16)	(20)	(13)	(17)	(8)	(13)	(13)	26	19
Total hydro	833	823	779	779	704	707	713	735	717	703	726	726	803	825
Surplus	197	197	197	197	197	197	197	197	197	197	197	197	205	197
Peak:														
Idaho Power Co. load	847	843	801	801	703	723	732	756	713	683	727	727	815	859
Present system hydro	358	359	360	360	362	362	362	360	361	361	360	360	359	358
Mid-Snake plants	828	888	888	888	888	888	888	880	864	888	888	888	888	888
U. S. Bureau of Reclamation surplus or (deficiency)	15	(1)	8	8	56	99	101	106	111	114	69	69	20	19
Total hydro	1,201	1,246	1,256	1,256	1,306	1,349	1,351	1,346	1,336	1,363	1,317	1,317	1,267	1,265
Surplus	354	403	455	455	603	626	619	590	623	680	590	590	452	406

TABLE XII.—*Independent operation*

[1964-65, median month hydro]

	July	August	September	October	November	December	January	February	March	April	May	June
Average:												
Idaho Power Co. load	636	626	582	507	510	516	538	520	506	529	598	628
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Mid-Snake plants	469	641	606	552	547	554	555	533	514	598	785	785
U. S. Bureau of Reclamation surplus or (deficiency)	24	22	12	(12)	(12)	(15)	(2)	9	22	18	33	38
Total hydro	912	902	858	783	786	792	814	796	782	897	1,075	1,088
Surplus	276	276	276	276	276	276	276	276	276	368	477	460
Peak:												
Idaho Power Co. load	847	843	801	703	723	732	756	713	683	727	815	859
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Mid-Snake plants	528	854	791	777	764	751	722	731	877	888	888	888
U. S. Bureau of Reclamation surplus or (deficiency)	15	(1)	(24)	66	106	104	106	111	114	71	20	19
Total hydro	1,202	1,212	1,128	1,205	1,232	1,217	1,188	1,203	1,352	1,320	1,267	1,266
Surplus	355	369	327	502	509	485	432	490	669	593	452	407

IDAHO MINIMUM YEAR INITIAL STUDY

BENEFIT FROM COORDINATION OF BROWNLEE WITH NORTHWEST POWER POOL

TABLE I-A.—*1934–35 streamflows, 1962–63 operating year—System prime power capability* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	5,840
Brownlee and Oxbow	366
Total	6,206
Independent operation of Brownlee:	
Main Columbia River system	5,791
Brownlee and Oxbow	280
Total	6,071
Benefit from coordination [2]	135

[1] Average capability during storage drawdown season (Sept. 1 through Apr. 30).
[2] Annual benefit at Brownlee and Oxbow with coordinated operation amounts to 7 average megawatts.

TABLE II-A.—*1934–35 streamflows, 1964–65 operating year—System prime power capability* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	5,849
Brownlee, Oxbow, and Hells Canyon	572
Total	6,421
Independent operation of Brownlee:	
Main Columbia River system	5,796
Brownlee, Oxbow, and Hells Canyon	449
Total	6,245
Benefit from coordination [2]	176

[1] Average capability during storage drawdown season (Sept. 1 through Apr. 30).
[2] Annual benefit at Brownlee, Oxbow, and Hells Canyon with coordinated operation amounts to 8 average megawatts.

IDAHO POWER CO., LOADS AND RESOURCES

TABLE III–A.—*With integrated Brownlee regulation*

[1962–63, 1934–35 hydro, with Brownlee regulation]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
AVERAGE												
Idaho Power Co., load	582	574	534	468	471	476	494	479	467	488	548	575
Present system hydro	212	208	206	216	212	213	212	201	199	206	214	202
Brownlee generation	172	184	223	220	227	228	248	351	288	235	78	97
Oxbow generation	68	73	89	87	91	91	100	151	151	151	42	42
U. S. Bureau of Reclamation surplus or (deficiency)	20	8	(27)	(18)	(6)	(10)	(9)	(12)	(7)	(17)	(9)	35
Total hydro	472	473	491	505	524	522	551	691	631	575	325	376
Surplus or (deficiency)	(110)	(101)	(43)	37	53	46	57	212	164	87	(223)	(199)
PEAK												
Idaho Power Co., load	772	769	731	645	663	670	692	654	627	667	744	783
Present system hydro	356	356	358	359	359	358	357	358	358	357	356	355
Brownlee generation	414	414	414	414	414	414	414	414	281	248	414	414
Oxbow generation	174	174	174	174	174	174	174	174	174	174	174	174
U. S. Bureau of Reclamation surplus or (deficiency)	0	(19)	(53)	4	45	42	42	47	50	30	(29)	23
Total hydro	944	925	893	951	992	988	987	993	863	809	915	966
Surplus	172	156	162	306	329	318	295	339	236	142	171	183

TABLE IV–A.—*With integrated Brownlee regulation*

[1964–65, 1934–35 hydro with Brownlee regulation]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
AVERAGE												
Idaho Power Co., load	636	626	582	507	510	516	538	520	506	529	598	628
Present system hydro	212	208	206	216	212	213	212	201	199	206	214	202
Brownlee generation	172	184	223	220	227	228	248	351	288	235	78	97
Oxbow generation	68	73	89	87	91	91	100	151	151	151	42	42
Hells Canyon generation	124	133	161	158	164	165	181	274	274	274	76	76
U. S. Bureau of Reclamation surplus or (deficiency)	16	4	(31)	(22)	(10)	(14)	(12)	(13)	(10)	(21)	(11)	33
Total hydro	592	602	648	659	684	683	729	964	902	845	399	450
Surplus or (deficiency)	(44)	(24)	66	152	174	167	191	444	396	316	(199)	(178)
PEAK												
Idaho Power Co. load	847	843	801	703	723	732	756	713	683	727	815	859
Present system hydro	356	356	358	359	359	358	357	358	358	357	356	355
Brownlee generation	414	414	414	414	414	414	414	414	281	248	414	414
Oxbow generation	174	174	174	174	174	174	174	174	174	174	174	174
Hells Canyon generation	240	300	300	300	300	300	300	300	300	300	300	300
U. S. Bureau of Reclamation surplus or (deficiency)	(6)	(25)	(59)	(2)	38	36	38	42	45	24	(33)	18
Total hydro	1,178	1,219	1,187	1,245	1,285	1,282	1,283	1,288	1,158	1,103	1,211	1,261
Surplus	331	376	386	542	562	550	527	575	475	376	396	402

TABLE V–A.—*Independent operation*

[1962–63, 1934–35 hydro]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
AVERAGE												
Idaho Power Co., load	582	574	534	468	471	476	494	479	467	488	548	575
Present system hydro	212	208	206	216	212	213	212	201	199	206	214	202
Mid-Snake plants	340	348	345	260	255	263	281	280	265	289	333	347
U. S. Bureau of Reclamation surplus or (deficiency)	20	8	(27)	(18)	(6)	(10)	(9)	(12)	(7)	(17)	(9)	35
Total hydro	572	564	524	458	461	466	484	469	457	478	538	584
Surplus or (deficiency)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	9
PEAK												
Idaho Power Co., load	772	709	731	645	663	670	692	654	627	667	744	783
Present system hydro	356	356	358	359	359	358	357	358	358	357	356	355
Mid-Snake plants	588	588	553	556	572	587	586	569	588	588	588	588
U. S. Bureau of Reclamation surplus or (deficiency)	0	(19)	(53)	4	45	42	42	47	50	30	(29)	23
Total hydro	944	925	858	919	976	987	985	974	996	975	915	966
Surplus	172	156	127	274	313	317	293	320	369	308	171	183

TABLE VI–A.—*Independent operation*

[1964–65, 1934–35 hydro]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
AVERAGE												
Idaho Power Co., load	636	626	582	507	510	516	538	520	506	529	598	628
Present system hydro	212	208	206	216	212	213	212	201	199	206	214	202
Mid-Snake plants	522	528	521	427	422	431	452	446	431	458	509	508
U. S. B. R. surplus or (deficiency)	16	4	(31)	(22)	(10)	(14)	(12)	(13)	(10)	(21)	(11)	33
Total hydro	750	740	696	621	624	630	652	634	620	643	712	743
Surplus	114	114	114	114	114	114	114	114	114	114	114	115
PEAK												
Idaho Power Co., load	847	843	801	703	723	732	756	713	683	727	815	859
Present system hydro	356	356	358	359	359	358	357	358	358	357	356	355
Mid-Snake plants	828	888	874	874	885	888	888	874	888	888	888	888
U. S. Bureau of Reclamation surplus or (deficiency)	(6)	(25)	(59)	(2)	38	36	38	42	46	24	(33)	18
Total hydro	1,178	1,219	1,173	1,231	1,282	1,282	1,283	1,274	1,291	1,269	1,211	1,261
Surplus	331	376	372	528	559	550	527	561	608	542	396	402

Coordination Agreement Executed by the United States of America Department of the Interior Acting by and Through the Bonneville Power Administration and Idaho Power Company

(Rough draft submitted by Idaho Power, August 29, 1956)

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0.1 This COORDINATION AGREEMENT, executed _____, 1956, by the UNITED STATES OF AMERICA (hereinafter called "United States"), Department of the Interior, acting by and through the BONNEVILLE POWER ADMINISTRATION (hereinafter called "Administrator"), and IDAHO POWER COMPANY (hereinafter called "Company"), a corporation duly qualified and authorized to do business in the States of Idaho, Oregon and Nevada, with its principal place of business in Boise, Idaho, its successors and assigns;

WITNESSETH, THAT:

0.2 Whereas, the Company is an electric utility company engaged in the generation, delivery, and sale of electric energy, and is constructing, under Federal Power Commission license (Project No. 1971), three additional hydroelectric plants (Brownlee, Oxbow, and Hells Canyon) on the Snake River below Weiser, Idaho, with an initial peaking capability of approximately one million kilowatts, to provide for the increased power requirements of its customers in the States of Idaho, Oregon and Nevada; and

0.3 Whereas, the Brownlee Plant, being constructed by the Company, includes a reservoir with a usable capacity of approximately 1,000,000 acre-feet, which will be used for flood control, navigation, recreational purposes and for regulation of the river to provide maximum power generation operated as a part of the Northwest Power Pool; and

0.4 Whereas, the Administrator is the marketing agent for the power generated at various Federal hydroelectric plants on the Columbia River, downstream from the Brownlee reservoir and other plants on the Columbia River and its tributaries, and the United States is the owner of an electric transmission system which is used to deliver electric energy at wholesale to the United States customers, such Federal hydro plants and transmission system hereinafter referred to as "Federal system"; and

0.5 Whereas, the parties hereto desire to obtain the benefits of maximum firm power generation for each system and for the area that will result from the integration and/or coordinated operation of the Federal system and the Company system, including the coordinated regulation of Brownlee storage; and

0.6 Whereas, the United States will benefit from coordinated operation of the two systems by having available for sale additional amounts of electric power and energy, and therefore, it is advantageous to the United States to make energy available to the Company; and

0.7 Whereas, the parties hereto are members of the Northwest Power Pool and cooperate in the coordinated operating program prepared each year for all electric utilities in the Northwest; and

0.8 Whereas, the coordinated operation of the Federal system and the Company's system will require agreement between the parties on operating procedures, interconnection facilities, interchange and sale of energy;

0.9 Now, therefore, the parties hereto mutually agree as follows:

ARTICLE I. TERM OF AGREEMENT

1.1 This agreement shall become effective upon the date first above written, and shall remain in effect during the term of the Federal Power Commission license (Project No. 1971) to the Company, ending August 4, 2005.

ARTICLE II. DEFINITIONS

2.1 The following terms, wherever used in the agreement, shall have the following respective meanings:

(a) "*Natural Flow Energy Capability*" of any system during any specified period shall mean the energy that can be produced by the system's hydro plants from natural stream flow, natural stream flow being the flow which would exist if there were no change in the elevation of upstream storage reservoirs; *provided, however,* that where discharges from upstream reservoirs are controlled by other parties for purposes other than power, natural stream flow shall, for the purpose of current operation, be the actual inflow to a system's reservoirs or forebays.

(b) "*Firm Energy Capability*" shall mean the computed average energy a system can produce from natural stream flow and full use of water stored in all reservoirs during the Control Season, as hereinafter defined, of the adverse water year (or years) of the system; adverse water year being the period of a repetition of historical critical "minimum stream flows" which, when related to the characteristics of the system firm power and energy load, plant capabilities, and regulated storage releases, would produce the least Firm Energy Capability on the system.

(c) "*Control Season*" shall mean that period between the date when the Natural Flow Energy Capability of the system declines below its Firm Energy Capability, and the following date when its Natural Flow Energy Capability exceeds its Firm Energy Capability with a repetition of historical critical "minimum stream flows."

(d) "*Nominal Control Season*" shall mean that period in the Operating Year (or years) which corresponds to the dates and periods of time of the Control Season of the adverse water year (or years) of the system.

(e) "*Operating Year (or years)*" shall mean that period between the beginning date of the Control Season or Nominal Control Season and the beginning date of the next subsequent Control Season or Nominal Control Season. The Operating Year (or years) shall be divided, for the purpose of this agreement, into two operating periods defined as follows:

(i) The "first period" shall begin when the Natural Flow Energy Capability of the system declines below the Firm Energy Capability of the system and shall end when the Natural Flow Energy Capability is equal to the Firm Energy Capability.

(ii) The "second period" shall begin at the end of the Control Season or when the Natural Flow Energy Capability is equal to the system Firm Energy Capability and shall end when the Natural Flow Energy Capability declines below the Firm Energy Capability.

(f) "*Firm Load Capability*" shall mean the average energy in the system load which can be supplied from the Firm Energy Capability.

ARTICLE III. OPERATING REPRESENTATIVES

3.1 It is hereby agreed by and between the parties hereto that the Federal system and the Company system shall be operated in such a manner as will result in there being available to each system and for the Northwest Power Pool area the maximum Firm Load Capability under a repetition of the most adverse historical water conditions, and furthermore, under water conditions better than adverse, the systems will be operated in such a manner as to produce the maximum amount of usable energy.

3.2 Coordinated operation of the Federal and Company systems shall be under the direction of designated Operating Representatives of each party.

3.3 In directing such coordinated operation, said Operating Representatives shall consider load conditions, available capacity, hydro conditions, including

reservoir elevations, stream flow probabilities and possibility of waste by spill, steam operation, maintenance and spinning reserve requirements, available transmission capacity, voltage control, reactive flow and other essential operating factors.

3.4 Each year, 90 days in advance of the first period of the Operating Year, but not later than June 15, the Operating Representatives of the parties hereto shall prepare preliminary plans for coordinated operation of the two systems as a part of the Northwest Power Pool. Such plans shall include the loads estimated by each part for its own system, construction and maintenance schedules, and other necessary data that the Operating Representatives shall deem useful in effecting the objectives of this agreement.

ARTICLE IV. DETERMINATION OF SYSTEM CAPABILITY

4.1 The Operating Representatives shall compute and agree upon the Federal and Company system capabilities from data supplied by each party for its own system and other necessary information hereinafter set forth; such computations shall be based upon historical streamflows (modified for irrigation developments and other consumptive uses, including diversions, if any), reservoirs and the installation of generating capacity in hydro plants that will be in operation in the period for which the determination is made. The first computation and agreement shall be made and confirmed in writing between the parties by March 31, 1957, and shall be based upon the parties' respective systems as expected to exist from time to time through June 30, 1959; subsequent computations and agreements shall be made, by March 31 of any year, two years in advance of the completion of any reservoir or generating facility on either parties' system or in the Northwest Power Pool which will affect the amounts agreed upon.

4.2 The computations referred to in paragraph 4.1 shall be made in accordance with mutually accepted principles used in the determination of hydroelectric system capabilities and such computations shall determine the following items:

(a) The Control Season for Federal and Company system combined.

(b) The Firm Energy Capability for the Federal and Company system combined in the Control Season determined in 4.2(a).

(c) The Firm Energy Capability during the Control Season determined in 4.2(a) above on the Company system and on the Federal system.

(d) The energy capability in a Nominal Control Season containing the most adverse historical streamflow for each system.

(e) The Firm Load Capability of the respective systems during the Control Season determined in 4.2(a) above for the Federal and Company systems.

(f) The firm load requirements on the Federal and on the Company systems during the second period of the Operating Year (or years) that will correspond to the Firm Load Capability determined in 4.2 (e) during the first period of the Operating Year (or years).

(g) Firm peaking capability of the Federal and Company systems during the Control Season determined in 4.2 (a).

(h) The integration power and energy available to the Company system through coordinated operation as follows:

(i) In the first period of the Operating Year of the combined system—the amount determined for the Company system in 4.2 (c) less the amount determined for the Company system in 4.2 (d);

(ii) In the second period of the Operating Year of the combined system—the amount determined for the Company system in 4.2 (f) less the generation on the Company system computed for the most adverse second period of the Operating Year on the Company system.

(i) The integration power and energy available to the Federal system through coordinated operation in the first period of the Operating Year—the amount determined for the Federal system in 4.2 (c) less the amount determined for the Federal system in 4.2 (d).

(j) The amount of the integration power and energy (hereinafter referred to as Integration Firm Energy Capability) which results from combining secondary energy on the Federal system with energy generated on the Federal system by water released from Brownlee reservoir on the Company's system.

(k) The energy capability of the two respective systems when median streamflows may occur.

ARTICLE V. OPERATING PROCEDURES

5.1 During the first and second periods of each operating year for the combined system, the Operating Representatives shall regulate releases of water from Brownlee reservoir to provide coordination of water use, and schedule related power and energy transfers between Federal and Company systems required for coordinated operation:

(A) During the first period:

(a) When the Company's computed water supply, assuming "minimum streamflow" for the balance of the first period, does not exceed the smaller of (1) the amount usable through the Company plants or (2) the Company's requirements or potential market, which in the Company's opinion is available, such coordinated water releases, reservoir drafts, and related power and energy transfers shall be such as to produce, for the balance of the period, the maximum power and energy on the Company and Federal systems; *provided, however,* that such water releases, reservoir drafts and related power and energy transfers, shall always be such that the Firm Energy Capability and related firm peak capability of the Company and Federal systems, determined in accordance with 4.2 (b) and 4.2 (g), can be produced for the balance of the first period with the coordinated releases herein provided and the power and energy transfers hereinafter set forth should "minimum streamflows" recur on either or both of the Company and Federal systems. The power and energy transfers related to such coordinated water releases shall be scheduled and classified in accordance with Articles VI and IX; *provided, however,* that the coordinated releases and related power and energy transfers of this section shall not require the Company

(i) to discharge an amount of water from its storage reservoirs in excess of the amount usable through any of the Company's plants or in excess of the amount usable by the Company to generate its requirements and other power and energy deliveries herein, whichever is the smaller, or

(ii) to limit water releases from Brownlee reservoir below that required for navigation and purposes other than power production, or

(iii) to limit water releases from Brownlee reservoir below an amount which would require power flow to the Company in excess of the capacity of the interconnecting transmission facilities.

(b) When the Company's computed water supply, assuming "minimum stream flows" for the balance of the first period, is in excess of the smaller of (1) the amount usable through some but not all of the Company's plants, or (2) Company's requirements and the potential market, which in the Company's opinion is available, and the Federal system's computed energy supply, assuming "minimum streamflow" for the balance of the first period, is less than the Federal system's requirements, such coordinated water releases and related power and energy transfers shall be made at Administrator's request in a manner to produce maximum usable generation on the Federal system, but shall not be such as to reduce the Company's energy supply to less than the larger of (3) its requirements and such available potential market, or (4) its Firm Load Capability and related firm peak capability, for the balance of the first period. The power and energy transfers related to such water releases of this paragraph, and in excess of other power and energy delivers herein, shall be scheduled and classified in accordance with Articles VI and IX; *provided, however,* that the coordinated water releases and related power and energy transfers shall not require Company to exceed the limitations set forth in paragraphs 5.1 (A) (a) (i), 5.1 (A) (a) (ii) and 5.1 (A) (a) (iii).

(c) Whenever the hydro power and energy supply with "minimum stream flows" for the balance of the first period of the Federal system and/or Northwest Power Pool is in excess of the area requirements, and whenever the water supply of both Federal and Company systems with "minimum stream flows" for the balance of the first period are in excess of their requirements and potential market, the coordinated releases of this Article and energy transfers of Article VI shall be discontinued; *provided, however,* that the power and energy transfers of Article VI, as scheduled in accordance with Article IX, shall be continued until such time as the balance in the "operating energy account", specified in Article VI, has been reduced to zero.

(B) During the second period the water releases and related power and energy transfers shall be such as to fill the Brownlee reservoir as rapidly as possible; *provided, however,* that such water releases and related power and energy transfers, shall always be such that the firm load requirements for the Company system determined in paragraph 4.2 (f) and related peaking capability can be supplied.

The power and energy transfers related to such coordinated water releases shall be scheduled and classified in accordance with Articles VI and IX; *provided, however,* that the coordinated releases and related power and energy transfers of this paragraph shall be within the following limitations:

(i) To provide for maximum utilization of electric energy available on the Federal and Company system, or

(ii) To provide the maximum power and energy on the Company's system, or

(iii) To provide for the use of interconnecting transmission facilities within practical operating limits, or

(iv) To provide the flood control functions in accordance with instructions from the Army Engineers, or

(v) To provide the minimum streamflows required for navigational purposes in accordance with agreements with the Army Engineers.

ARTICLE VI. DESCRIPTION AND AMOUNTS OF ENERGY TRANSFERS DUE TO COORDINATED WATER RELEASES

6.1 There shall be established an Operating Energy Account to account for the transfer of energy between systems to maintain firm load capability of the respective systems during the first period of the Operating Year of the combined systems, and to enable the release of Brownlee storage to maintain the Firm Load Capability of the two systems:

(a) During that part of the first period when Brownlee reservoir is held full and the natural flow energy is insufficient to supply the smaller of either (i) Company's load requirements, or (ii) Company's Firm Load Capability, there shall be debited against Company's Operating Energy Account the amount of energy delivered from the Federal system necessary to supply either of the above requirements.

(b) During that part of the first period when Brownlee storage water is being released for use in the Federal system plants and the natural flow energy plus the energy generated by Brownlee storage releases exceed the smaller of either (i) Company's load requirements, or (ii) Company's Firm Load Capability, there shall be delivered by the Company to the Federal system and credited to Company's Operating Energy Account the amount of energy so delivered to the Federal system.

(c) The Operating Energy Account shall be cleared within the first period by energy deliveries as scheduled by either party, giving consideration to availability of machine and transmission line capacity.

6.2 In the event the natural flow energy and energy from Brownlee and other storage on the Company system, expressed in average kilowatts for the first period of the Operating Year (or years) for the combined systems, is insufficient to supply the smaller of either (i) Company's load requirements, or (ii) Company's Firm Energy Capability, expressed in average kilowatts for the first period of the operating year, the amount of energy required to make up the difference between actual generation and Company's requirements above shall be delivered by Federal system as integration energy and classified as set forth in paragraph 9.3; *provided, however,* that such amount shall not exceed the quantity determined in accordance with 4.2 (h) (i).

6.3 In the second period of the Operating Year (or years) of the combined systems, the energy delivered to Company shall be integration energy classified as set forth in paragraph 9.3; *provided, however,* that such amount shall not exceed the quantity determined in accordance with paragraph 4.2 (h) (ii).

ARTICLE VII. AVAILABILITY OF POWER AND ENERGY FOR COORDINATED OPERATION

7.1 The parties hereto agree and affirm the essence of this Coordination Agreement to be predicated on the assurance of the availability of energy to effectuate the integration and coordinated operation of the two systems as herein set forth and the Administrator, for himself and successors, does hereby pledge and affirm for the United States that the presently existing statutes will in no way limit the obligations herein agreed to, and the Company, for itself, successors and assigns, likewise pledges and affirms the full use of its facilities to fulfill the obligations herein agreed to.

7.2 The Administrator shall supply to Company from the Federal system integration power and energy in the amounts set forth in paragraphs 6.2 and 6.3 when scheduled as hereinafter set forth. Integration energy shall be made available to the Company at the rates hereinafter set forth and its priority of supply to the Company for this purpose shall be, in the first period, second only

to the United States load supplied from the Federal system's Firm Energy Capability, and in the second period, with proper placement with other area needs for filling and/or holding storage in non-federal reservoirs upstream from Federal plants and second only to the needs for filling and/or holding storage in Federal reservoirs upstream from Federal plants.

7.3 The Company shall coordinate the operation of Brownlee reservoir with the Federal system in accordance with the principles set forth in Article V to obtain on the Company and Federal systems maximum Firm Energy Capability and other useable energy.

7.4 The Integration Firm Energy Capability computed in 4.2 (j) to be available on the Federal system as a result of the coordinated operation provided for herein shall be available to the Company, its priority of supply to the Company shall be with the same placement of other firm power users, and the Company shall pay for such power at the rates hereinafter set forth.

ARTICLE VIII. OTHER ENERGY TRANSFERS

8.1 Either party, at its option, will accept during the Control or Nominal Control Season energy deliveries by the other party, in addition to those provided for hereunder, which will enable the accepting party to store or hold water in the parties' reservoir. On request of and as scheduled by the delivering party, such stored water will be released through the other party's plants, whenever in the party's opinion it has capacity available for such purpose, and, subject to the use of interconnecting facilities for the transfer of other power and energy provided for hereunder, the energy produced by such releases will be returned to the delivering party at no cost; *provided, however,* that the obligation to return such energy will terminate whenever the reservoir (or reservoirs) of the accepting party shall fill and spill.

8.2 Energy transfers under Contract No. 14–03–001–11493 shall be scheduled and classified along with energy transfers herein provided in accordance with Article IX.

8.3 By written agreement between parties, other energy transactions may be effected in accordance with Article IX.

ARTICLE IX. SCHEDULING AND CLASSIFICATION OF ENERGY

9.1 The Operating Representatives shall prepare hourly schedules of power and energy transfers, with simultaneous deliveries and receipts of more than one class of power being properly identified and accounted for each hour, and when so scheduled and agreed to by the Operating Representatives, will be considered as having been effectively delivered or received by the parties hereto. Operating deviations from schedule shall be held to a minimum, properly accounted for, and corrected for under like conditions of water supply and load. Net scheduled power and energy deliveries and receipts, and net actual power and energy deliveries and receipts, shall be equal for any monthly period.

9.2 In the event it is necessary to reduce or interrupt operations hereunder to repair or maintain facilities, such reductions or interruptions will be arranged for as far in advance as feasible by mutual agreement of the parties. When such reduction or interruption restricts or interrupts the delivering or receiving of scheduled power and energy, the representatives shall correct future schedules or deliveries and properly account for all deviations from recorded schedules.

9.3 Power and energy to be transferred between the Federal and Company systems in accordance with the definitions heretofore set forth shall be classified and accounted for when scheduled in accordance with the following descriptions:

(a) During the first period of the Operating Year (or years) for the combined system:

(i) Operating energy delivered in accordance with paragraph 6.1.

(ii) Integration energy delivered in accordance with paragraphs 6.2 and 7.2—

Class A: When unsalable to other customers of United States,
Class B: When salable as low availability secondary energy,
Class C: When salable as priority interruptible secondary energy,
Class D: When salable as dump energy.

(iii) Integration Firm Energy Capability delivered in accordance with paragraph 7.4.

(iv) Energy under Contract No. 14–03–001–11493.

(v) Other energy.

(b) During the second period of the Operating Year (or years) for the combined systems:

(i) Integration energy delivered in accordance with paragraphs 6.3 and 7.2—

Class A: When unsalable to other customers of United States,
Class B: When salable as low availability secondary energy,
Class C: When salable as priority interruptible secondary energy,
Class D: When salable as dump energy.

(ii) Integration Firm Energy Capability delivered in accordance with paragraph 7.4.

(iii) Energy under Contract No. 14–03–001–11493.

(iv) Other energy.

ARTICLE X. CHARGES FOR SERVICE

10.1 The Company shall pay the United States for energy delivered under this agreement in accordance with the classification of the energy as hereinbefore set forth at the following rates. Copies of the rates presently in effect are attached hereto:

(a) Operating energy classified in paragraphs 9.3 (a) (i)—No Charge—energy to be exchanged on basis 1 KWH equals 1 KWH.

(b) Integration energy classified in paragraphs 9.3 (a) (ii) and 9.3 (b) (i):

Class A: No charge
Class B: Bonneville Power Adm Rate No S–1 in effect at the time
Class C: Bonneville Power Adm Rate No C–4 in effect at the time
Class D: Bonneville Power Adm Rate No H–3 in effect at the time.

(c) Integration Firm Energy Capability classified in paragraphs 9.3 (a) (iv) and 9.3 (b) (iii) at the Bonneville Power Administration rate for firm power in effect at the time.

10.2 Under this agreement, the Company will perform the services described herein to the United States at no cost; *provided, however,* such charge may be reviewed each five years and by written agreement such additional charges as may become appropriate shall be made.

10.3 The accounting period for settlements hereunder shall be the calendar month, unless otherwise agreed upon by the parties.

10.4 All bills for net amounts owed by Company to United States hereunder, except as otherwise herein provided, shall be due and payable to the fifteenth day of the month following the end of the period to which the bill is applicable, or on the tenth day following receipt by Company of a properly certified invoice or voucher, whichever date is later. In the event a portion of a bill, or of any other claim or adjustment arising hereunder, is disputed, payment shall be made when due of the portion not in dispute.

ARTICLE XI. FACILITIES TO BE PROVIDED

11.1 The Company shall provide the interconnecting transmission facilities, in addition to the existing LaGrande point of interconnection, which, in the Company's opinion, is necessary to effect the energy transfers herein contained; *provided, however,* that the parties shall agree upon points where future points of interconnection may be established.

11.2 The United States shall provide the interconnecting transmission facilities, in addition to the existing LaGrande point of interconnection, which, in the United States' opinion, is necessary to effect the energy transfers herein contained; *provided, however,* that the parties shall agree upon points where future points of interconnection may be established.

11.3 Each party shall install, own, operate, and maintain such metering, telemetering and communication equipment on its own system as determined to be necessary to effect the integrated operation of the Federal and Company system.

ARTICLE XII. METERING AND POWER FACTOR

12.1 Subject to the other provisions of this contract, electric energy will be made available to either party hereunder in the form of three phase current, alternating at a frequency of approximately sixty (60) cycles per second. Deliveries thereof at each point of delivery shall be made directly over the parties' facilities at the approximate voltage and during the period specified for such point. The amounts of electric energy and reactive power delivered at such point of delivery during each hour shall be the amounts determined, after making such adjustment for losses as may be indicated by using factors to be agreed upon by Operating Representatives, from measurements made by the United States'

watt-hour, var-hour, and demand meters, respectively, installed, or to be installed, to record the flow of electric energy and reactive power at the place and in the circuit specified.

12.2 The United States will test the metering equipment owned by it at least once every two years, and if it is found to be inaccurate, will adjust or replace it. The Company will be given reasonable notice of the time when such tests will be made, and may have a representative present. At the request of one party, the other party will make additional tests or inspections of the metering equipment owned by the latter in the presence of representatives of the party making the request, and the cost thereof will be paid by the party making the request, if the percentage of error is found to be less than two per cent (2%) slow or fast.

12.3 If any test made shows any meter to be inaccurate by more than two per cent (2%), or if any meter fails to register, an appropriate adjustment will be made in the amount of power delivered (a) for the actual period of incorrect meter registration, if such period can be established, or (b) if not, for half the period from the date of the last preceding test of metering equipment; *provided, however*, that the period of adjustment shall not exceed six (6) months.

12.4 Each of the parties hereto will jointly plan and operate its system for mutual advantage and so that the flow of reactive power hereunder will not adversely affect the system of the other.

12.5 If any equipment or facilities of a party to this contract are, or are to be by the terms of this contract, located on the property of the other, a permit to install, test, maintain, inspect, replace, and repair during the term of this contract and to remove at the expiration of said term, such equipment and facilities, together with the right of ingress and egress at all reasonable times in such term, is hereby granted by the other party.

12.6 Each party shall have the right to read, at all reasonable times, any and all meters mentioned in this contract which are installed on the property of the other.

ARTICLE XIII. UNCONTROLLABLE FORCES AND LIABILITY

13.1 Neither party shall be considered to be in default in respect to any obligation hereunder, if prevented from fulfilling such obligation by reason of uncontrollable forces. The term uncontrollable forces, being deemed for the purpose of this contract to mean any cause beyond the control of the party affected, including, but not limited to, failure of facilities, flood, earthquake, storm, lightning, fire, epidemic, war, riot, civil disturbance, labor disturbance, sabotage, restraint by court or public authority, or act or failure to act by Court or public authority, which by exercise of due diligence and foresight such party could not reasonably have been expected to avoid. Either party rendered unable to fulfill any obligation by reason of uncontrollable forces shall exercise due diligence to remove such inability with all reasonable dispatch.

13.2 Each party shall defend and indemnify the other party against liability, loss, costs and expenses on account of injury (including death) or damage to persons or property occasioned on or adjacent to the facilities on its side of the delivery points described herein, unless such injury or damage resulted from the sole negligence of the other party or of its officers, servants, agents or employees; *provided, however*, that each party shall be solely responsible for the claims of and payments to its employees and agents for injuries (including death) occurring in connection with their employment or arising out of any workmen's compensation law.

ARTICLE XIV. GENERAL PROVISIONS

14.1 Nothing contained herein shall be construed to be in conflict with the statutes and laws prescribing the authority under which the Administrator acts.

14.2 Nothing in this agreement shall be construed as a limitation on the Administrator to sell to preference or other customers of the United States the firm power which would be available to the Administrator without the existence of this agreement.

14.3 Nothing in this agreement shall be construed as a limitation on the Company in selling power and energy available to the Company or in any way affecting the ability of the Company to perform its public utility responsibility to its customers in the areas now served and as the area may exist.

14.4 If at any time any dispute, difference or question shall arise between the parties hereto concerning the application, construction or meaning of any of the provisions of this agreement, except those dealing with rates and payment for power and energy, upon demand of either party the matter in dispute, the difference or question will be referred to arbitration. An offer of such reference to arbitration will be a condition precedent to any proceeding at law or in equity

concerning such matter or dispute, provided that either party may without arbitration bring a proceeding to enjoin breach of this agreement.

14.5 Either party may servewritten notice of demand for arbitration, naming one arbitrator. The party served with such notice will appoint a second and the two so appointed will appoint a third. In case of failure of the party served with notice to appoint a second arbitrator within ten (10) days, or failure of the two first appointed to appoint a third within ten (10) days after the appointment of the second, then the party demanding arbitration may, after five (5) days' notice to the other party, apply for appointment of the second or third arbitrator, as the case may be, to any person who is a Judge of the United States District Court.

14.6 The arbitrators will hear such evidence as is submitted by the parties and will proceed to make a determination; *provided, however*, that the arbitrators will be entitled to call upon either party for additional information. The decision of a majority of the arbitrators will be binding upon the parties with respect to the matter submitted. All expenses of arbitration will be paid equally by the parties except that the compensation, if any, of the first and second members of the board of arbitration will be paid by the party by or for whom they were named.

ARTICLE XV. INTEREST OF MEMBER OF CONGRESS

15.1 No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

ARTICLE XVI. REPRESENTATIVES AND NOTICES

16.1 For the purposes of this agreement, except as may be otherwise specifically provided herein, and until receipt of further notice in writing to the contrary, either party shall be entitled to regard as the authorized representative of the other person designated below:

Representative of United States: Administrator, Bonneville Power Administration

Representative of Company: President, Idaho Power Company

16.2 Any notice to be given by one party to the other in accordance with the provisions of this agreement, or with respect to a matter relating hereto, shall be deemed to be adequately given if sent by registered mail, deposited in a United States post office in Idaho or Oregon one day before the day as of which the notice is intended to be given, and addressed as follows:

Notice to United States, addressed to the
Administrator
Bonneville Power Administration
Portland 8, Oregon

Notice to Company, addressed to the
President, Idaho Power Company
1220 Idaho Street
Boise, Idaho

Either party may from time to time specify by notice in writing a different address to which notices are to be sent.

ARTICLE XVII. APPROVAL OF CONTRACT

17.1 This agreement shall not be binding upon the parties hereto until it has been approved by the Secretary of the Interior, the Federal Power Commission, the Public Utilities Commissioner of Oregon, the Public Utilities Commission of Idaho and the Public Service Commission of Nevada, but when so approved, shall be effective immediately.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officers as of the date first herein written.

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR,

(SEAL) By ----------
Bonneville Power Administrator.

IDAHO POWER COMPANY,

(SEAL) By ----------
President.

Attest: ----------
Secretary.

Coordination Agreement Executed by the United States of America, Department of the Interior, Acting by and Through the Bonneville Power Administration and Idaho Power Co.

(Draft No. 2 submitted by Idaho Power January 29, 1957)

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0.1 This COORDINATION AGREEMENT, dated _____, 1957, made and entered into by and between the UNITED STATES OF AMERICA (hereinafter called "United States"), Department of the Interior, acting by and through the BONNEVILLE POWER ADMINISTRATOR (hereinafter called "Administrator"), and IDAHO POWER COMPANY (hereinafter called "Company"), a corporation duly qualified and authorized to do business in the States of Idaho, Oregon and Nevada, with its principal place of business in Boise, Idaho, its successors and assigns;

WITNESSETH, THAT:

0.2 Whereas, the Company is an electric utility company engaged in the generation, delivery, and sale of electric energy; and the Federal Power Commission has issued to the Company a license (Project No 1971) for three additional hydroelectric plants (Brownlee, Oxbow and Hells Canyon) on the Snake River below Weiser, Idaho, with an initial peaking capability of approximately one million kilowatts, to provide for the increased power requirements of its service area, and of the territory served by members of the Northwest Power Pool system, of which the service area of the Company is a part; and said license requires that the Company coordinate the operation of said project and its system with the Northwest Power Pool; and

0.3 Whereas, the Brownlee Plant, being constructed by the Company, includes a reservoir with a usable capacity of approximately 1,000,000 acre-feet, which will be used for flood control and navigation purposes and for regulation of the river to provide maximum power generation in operation as a part of the Northwest Power Pool system, all as required in said license; and

0.4 Whereas, the Administrator is the marketing agent for the power generated at various Federal hydroelectric plants on the Columbia River and on its tributaries downstream from the Brownlee reservoir, and the United States is the owner of an electric transmission system which is used to deliver electric energy at wholesale from such plants to customers of the United States, such Federal hydro plants and transmission system being hereinafter referred to as the "Federal system"; and

0.5 Whereas, the Company's system is interconnected with the Federal system and other systems comprising the Northwest Power Pool, which consists of and includes all the major public and private electric plants and system (including the systems of the parties hereto) which serve the Pacific Northwest area, voluntarily cooperating in the coordinated operation of their combined systems under various individual contracts and arrangements for sale and interchange of power, storage and release of water, interconnection of facilities, and maximum coordinated utilization of economic power production resources; and

0.6 Whereas, in order to serve area loads, the maximum utilization and integration of all power generating resources in the territory served by the Northwest Power Pool systems is and will continue to be required; and the parties hereto desire to obtain the benefits of the additional firm power generation for their respective systems, and for the area, which will result from the integration and/or coordinated operation of the Company system and the Federal system, including the coordinated regulation of Brownlee storage, as required under the Federal Power Commission's license; and

0.7 Whereas, in order to obtain the coordinated operation of the Company's system and the Federal system, agreements are necessary between the parties on operating procedures, regulation of storage, and interchange and sale of energy; and the coordinated operation of the two systems and the interchange, supply and sale of power and energy, as in this agreement provided for, will be to the advantage of both parties, and to the Northwest Power Pool area;

Now, therefore, the parties hereto mutually agree as follows:

ARTICLE I. DEFINITIONS

1.1 The following terms, as used in the agreement, shall have the following respective meanings:

(a) *"Combined System"* shall mean the Federal system and Company system operated as a single system for maximum load carrying capability.

(b) *"Natural Flow Energy Capability"* of the respective systems of the parties, or of the Combined System, during any specified period, shall mean the energy that can be produced by such system's hydro plants from natural stream flow,—natural stream flow being the flow which would exist if there were no change in the elevation of upstream storage reservoirs; *provided, however,* that during periods when upstream reservoirs are being controlled for purposes other than power, natural stream flow shall be the actual aggregate inflow to such system's reservoirs or forebays.

(c) *"Firm Energy Capability"* of the respective systems of the parties, or of the Combined System, shall mean the computed average energy each such system can produce from natural stream flow (as defined in paragraph (b) above) and full use of all stored water under control of the party or parties in all reservoirs during the Control Season (as hereinafter defined) for the adverse water period applicable to the Combined System,—the adverse water period being the period (year or years) under assumed conditions of historical minimum stream flows which, when related to the characteristics of the Combined System firm load, plant capabilities and regulated storage releases, would produce the least energy capability on the Combined System.

(d) *"Firm Load Capability"* of the respective systems of the parties, or of the Combined System, shall mean the energy from such system's Firm Energy Capability which can be fitted and utilized to serve such system's load.

(e) *"Control Season"* relates to the Combined System, and shall mean that period between the date when the Natural Flow Energy Capability will decline below the Firm Load Capability of the Combined System, and the first succeeding date when its Natural Flow Energy Capability will again exceed its Firm Load Capability, under assumed conditions of historical minimum stream flows.

(f) *"Operating Period"* relates to the Combined System, and shall mean a cycle of Combined System operation (year or years) determined by the Operating Representatives of the parties, and consisting of drawdown and refill periods, as follows:

(1) A "drawdown period," shall begin when the Natural Flow Energy Capability declines below the load requirements of the Combined System, and shall end when the Natural Flow Energy Capability is again equal to such load requirements.

(2) A "refill period," shall begin when the Natural Flow Energy Capability is equal to the load requirements of the Combined System, and shall end when the Natural Flow Energy Capability declines below such load requirements.

(g) *"Operating Energy"* shall mean energy transferred between systems, during a drawdown period only, in order to supply a deficiency between either system's actual generation and its load requirements, as hereinafter provided.

(h) *"Integration Energy"* shall mean energy transferred between systems, during a refill period only, in order to supply a deficiency between either system's actual generation and its load requirements, as hereinafter provided.

(i) *"Integration Firm Energy Capability"* shall mean the additional Firm Energy Capability on the Federal system which results from combining capacity and secondary energy on the Federal system with energy generated on the Federal system by water released from the Company's reservoirs.

ARTICLE II. AVAILABILITY OF POWER AND ENERGY FOR COORDINATED OPERATION

2.1 It is understood and agreed that the Company system and the Federal system shall be operated in such manner as to provide the maximum Firm Load Capability for the Combined System, should a repetition of historical minimum stream flow occur, and to make available to each system its maximum Firm Load Capability. When actual water supply is greater than under historical minimum stream flow conditions, the respective systems will be operated in such manner as to produce the maximum amount of usable energy for each system. It is recognized and agreed that the objectives of this agreement are dependent upon the assurance of the availability to both parties of the energy required to effectuate the integration and coordinated operation of the two systems as herein provided for, and the Administrator and the Company agree to the use of their respective facilities as required in order to fulfill their respective obligations in this agreement set forth.

2.2 To obtain on the Combined System the maximum Firm Load Capability, and maximum supply of other usable energy for each system, the Company hereby agrees to the coordination of the operation of its reservoirs with the Federal system and to supply to the Federal system Operating Energy as requested by the Administrator under the terms of this agreement; and the Administrator hereby agrees to supply to the Company's system Operating Energy and Integration Energy as requested by the Company under the terms of this agreement, such Integration Energy to be supplied to the Company subject only to the needs for filling and/or holding storage in reservoirs on the Federal system upstream from Federal plants and to such placement of storage in non-Federal reservoirs as will provide generation of maximum usable energy in the Northwest Power Pool area.

ARTICLE III. OPERATING REPRESENTATIVES

3.1 Coordinated operation of the Federal and Company systems shall be under the direction of four Operating Representatives, two to be appointed in writing by each party.

3.2 In directing such coordinated operation, said Operating Representatives shall consider load conditions, available capacity, hydro conditions, including reservoir elevations, stream flow probabilities and possibility of waste by spill, steam operation, maintenance and spinning reserve requirements, available transmission capacities, voltage control, reactive flow and other essential operating factors.

3.3 Ninety days prior to the beginning of each Operating Period, and annually not later than June 15 of each year, the Operating Representatives shall prepare preliminary plans for coordinated operation of the two systems for the ensuing year. Such plans shall include the loads estimated (both energy and peak) by each party for its own system, construction and maintenance schedules, and such other necessary data, including operation with other members of the Northwest Power Pool, as the Operating Representatives shall deem useful in carrying out the provisions of this agreement.

ARTICLE IV. DETERMINATION OF SYSTEM CAPABILITIES

4.1 The Operating Representatives, from data supplied by each party for its own system and other necessary information, shall determine the Federal and Company system capabilities as hereinafter provided. Such computations shall be based upon historical stream flows (modified for irrigation developments and other consumptive uses), usable reservoir capacities, and the installed generating capacity in hydro plants that will be in operation in the period for which the determination is made. The first such computation and determination shall be made by the Operating Representatives, and confirmed in writing by and between the parties, by March 31, 1957, and shall be based upon the respective systems of the parties as expected to exist from time to time through June 30, 1959. Subsequent determinations and agreements, as aforesaid, shall be made by March 31 of any year, two years in advance of the scheduled completion of any reservoir or generating facility on either party's system or in the Northwest Power Pool which will affect the amounts agreed upon.

4.2 The determinations referred to in paragraph 4.1 shall be made in accordance with mutually accepted principles used in the determination of hydroelectric system capabilities, and shall include the following items:

(a) The Control Season.

(b) The firm Energy Capability for the Combined System.

(c) The amount of the Firm Energy Capability, determined in 4.2 (b) above, on the Company system and on the Federal system.

(d) The average energy capability of each system during a drawdown period, when such system is operating under assumed conditions of historical minimum stream flows, and when the Combined System can still maintain its Firm Energy Capability determined in paragraph 4.2 (b) above.

(e) The Firm Load Capability of the Combined System, and of the respective systems, during the Control Season.

(f) The estimated firm load requirements on the respective Federal and Company systems during a refill period which will occur when each system load in the Control Season is equal to the Firm Load Capability determined in 4.2 (e) above.

(g) The firm peaking capabilities of the Combined System, and of the respective systems, during the Control Season.

(h) The Operating Energy resulting from coordinated operation as follows:

(1) Available to the Company system from the Federal system: the sum of (A) the maximum number of kilowatt-hours required to be delivered to the Company to serve the Firm Load Capability, as determined in paragraph 4.2 (e), for the Company system; and (B) the kilowatt-hours determined for the Company system in paragraph 4.2 (c), minus the kilowatt-hours determined for the Company system in paragraph 4.2 (d).

(2) Available to Federal system from the Company system: the maximum number of kilowatt-hours required to be delivered to the Federal system to serve the Firm Load Capability, as determined in paragraph 4.2 (e), for the Federal system.

(i) The Integration Energy available to the Company system from the Federal system, resulting from coordinated operation: the amount determined for the Company system in 4.2 (f), less the average energy capability on the Company system during a refill period, computed under assumed conditions of historical minimum stream flows on the Company system.

(j) The amount of Integration Firm Energy Capability.

(k) The energy capability of the respective systems under median-month stream flow conditions.

ARTICLE V. OPERATING PROCEDURES

5.1 In each Operating Period, the Operating Representatives shall regulate releases of water from Brownlee and other reservoirs of the parties in accordance with adopted rule curves and schedule related power and energy transfers between Federal and Company systems, as required for coordinated operation of the Combined System, as follows:

(A) During the drawdown period:

(a) When the Company's estimated water supply, including available storage water and assuming historical minimum stream flow conditions for the balance of a drawdown period, does not exceed the smaller of (1) the amount usable through the Company plants, or (2) the amount required for generation to supply the Company's system load requirements and other loads available to the Company, such coordinated water releases from Brownlee and other reservoirs, and related power and energy transfers, shall be such as to produce the maximum usable power and energy on the Combined System; *provided, however*, that such water releases and related power and energy transfers shall always be such that the Firm Energy Capability and related firm peak capability of the Combined System, determined under paragraphs 4.2 (b) and 4.2 (g) can be produced throughout the remainder of the drawdown period should historical minimum stream flow conditions recur on either system or the Combined System; *provided, further*, that the coordinated water releases and related power and energy transfers provided for in this paragraph (a) shall not require the Company:

(i) to discharge an amount of water from its reservoir storage in excess of the amount usable through any of the Company's plants, or in excess of the amount usable by the Company to generate its load requirements and other power and energy deliveries provided for under this agreement, whichever is the smaller; or

(ii) to limit water releases from Brownlee reservoir below that required for navigation and flood control purposes; or

(iii) to regulate water releases from Company reservoirs in such a manner that would require power flow between systems in excess of the capacity of the interconnecting transmission facilities.

(b) When the Company's estimated water supply, including available storage water and assuming historical minimum stream flow conditions for the balance of a drawdown period, is in excess of the smaller of (1) the amouut usable through the Company's Brownlee, Oxbow or Hells Canyon powerplant, or (2) the amount required for generation to supply the Company's system load requirements and other loads available to the Company, and the Federal system's computed energy supply, assuming historical minimum stream flow conditions for the balance of the drawdown period, is less than the Federal system load requirements, such coordinated water releases from Brownlee and other reservoirs, and related power and energy transfers, shall be made at the Administrator's request so as to produce maximum usable generation on the Federal system; *provided, however*, that the coordinated water releases and related power and energy transfers provided for in this paragraph (b) shall not require Company to exceed the limitations set forth in paragraph 5.1 (A) (a) (iii); and *provided, further*, that such water releases and related power and energy transfers shall at all times be sufficient to provide the Company with an energy supply equal to the larger of (1) its requirements for its system load and other loads available to the Company or (2) its Firm Load Capability and related firm peak capability, determined under paragraph 4.2 (e) and 4.2 (g), throughout the remainder of the drawdown period.

(c) When the computed hydro power and energy supply of the Federal system, assuming historical minimum stream flow conditions for the balance of a drawdown period, is in excess of the Federal system load requirements, and the water supply of both Federal and Company systems, assuming historical minimum stream flow conditions for the balance of the drawdown period, is in excess of the amount required for generation to supply their respective load requirements, the coordinated water releases under this Article and energy transfers under Article VI may be discontinued; *provided, however*, that the power and energy transfers under Article VI, as scheduled in accordance with Article VIII, shall be continued until such time as the balance in the Operating Energy Account, provided for in Article VI, has been reduced to zero.

(B) During the refill period:

The water releases and related power and energy transfers shall be such as to fill the Brownlee reservoir as rapidly as possible, subject to maximum utilization of energy available on the Federal and Company systems; *provided, however*, that such water releases and related power and energy transfers shall always be such that the firm load requirements for the Company system, and related peaking capability, shall be available to the Company; *provided, further*, that the coordinated releases and related power and energy transfers provided for in this paragraph (B) shall be subject to flood control and navigation requirements, and to the capacities of interconnecting transmission facilities.

5.2 The power and energy transfers related to coordinated water releases, as provided in paragraph 5.1 above, shall be scheduled and classified in accordance with Articles VI and VIII.

ARTICLE VI. TRANSFERS OF ENERGY DUE TO COORDINATED OPERATION

6.1 There shall be established an Operating Energy Account, for use during the drawdown period or periods of each Operating Period, to account for the transfer of Operating Energy between systems.

(a) During that part of a drawdown period when Company reservoirs are held at the same level, and the Company's natural flow of energy is insufficient to supply the smaller of either (i) the Company's system load requirements and other loads available to the Company, or (ii) the Company's Firm Load Capability as determined under paragraph 4.2 (e), there shall be delivered to the Company system from the Federal system such amount of energy as is necessary to supply the above deficiency, and the Company shall be debited (and the Administrator credited) in the Operating Energy Account with the amount of energy so delivered to the Company system.

(b) During that part of the drawdown period when Company storage water is being released for use in the Federal system plants, and the Company's natural flow energy plus the energy generated by storage releases exceeds the smaller of either (i) the Company's system load requirements and other loads available to

the Company, or (ii) the Company's Firm Load Capability, there shall be delivered by the Company to the Federal system the amount of such excess, and the Company shall be credited (and the Administrator debited) in the Operating Energy Account with the amount of energy so delivered to the Federal system.

(c) The Operating Energy Account shall be cleared during the drawdown period or periods of each Operating Period either (1) by energy deliveries as scheduled by the parties, or (2) by transfer of energy balances in the account into other energy classifications described in paragraph 8.3.

6.2 During each Operating Period, energy shall be made available to the Company system from the Federal system as follows:

(a) During drawdown periods: the amount of Operating Energy required and scheduled by the Company, but not exceeding the total amount determined under paragraph 4.2 (h) (1).

(b) During the refill periods: the amount of Integration Energy required and scheduled by the Company, but not exceeding the total amount determined under paragraph 4.2 (i).

(c) The Integration Firm Energy Capability, in the amount determined in paragraph 4.2 (j) shall at all times be available to and purchased by the Company, and the Company shall pay for all such power and energy at the rate hereinafter set forth.

(d) All energy delivered to the Company pursuant to paragraphs (a), (b) and (c) above, shall be classified by the Operating Representatives in accordance with paragraph 8.3 and shall be paid for by the Company in accordance with paragraph 9.1 of this agreement.

6.3 During each Operating Period, energy shall be made available to the Federal system from the Company system as follows:

(a) During drawdown periods: the amount of Operating Energy required and scheduled by the Administrator, but not exceeding the total amount determined under paragraph 4.2 (h) (2).

(b) All energy delivered to the Federal system pursuant to paragraph (a) above, shall be classified by the Operating Representatives in accordance with paragraph 8.3 and shall be paid for in accordance with paragraph 9.1 of this agreement.

ARTICLE VII. STORAGE OR OTHER ENERGY TRANSFERS

7.1 Either party, at its option, will accept during the Control Season energy deliveries by the other party, in addition to those provided for hereunder, which will enable the accepting party to store or hold water in such party's reservoirs; and on request of and as scheduled by the delivering party, such stored or equivalent water will thereafter be released through the accepting party's plants, whenever in such party's opinion it has generating capacity available for such purpose, and subject to the capacities of interconnecting facilities for the transfer of other power and energy provided for hereunder, and the energy produced by such releases will be returned to the delivering party at no cost; *provided, however*, that the obligation to return such energy will terminate whenever the reservoirs on the accepting party's system shall fill and spill.

ARTICLE VIII. SCHEDULING AND CLASSIFICATION OF ENERGY

8.1 The Operating Representatives shall prepare in advance hourly schedules of power and energy transfers, with simultaneous deliveries of more than one class of power being properly identified and accounted for each hour; and when so scheduled and agreed to by the Operating Representatives, energy transfers will be considered as having been effectively delivered or received by the parties hereto. Operating deviations from schedule shall be held to a minimum, properly accounted for, and corrected for under like conditions of water supply and load.

8.2 In the event it is necessary to reduce or interrupt operations hereunder to repair or maintain facilities, such reductions or interruptions will be arranged for as far in advance as feasible by mutual agreement of the parties. When such reduction or interruption, or other emergency or accidental interruption, restricts or interrupts the delivering or receiving of scheduled power and energy, the representatives shall adjust future schedules or deliveries, and properly account for all deviations from recorded schedules.

8.3 Power and energy to be transferred between the Federal and Company systems in accordance with the definitions heretofore set forth shall be classified and accounted for when scheduled, in accordance with the following descriptions:

(a) Operating energy delivered in accordance with paragraphs 6.1, 6.2 (a) and 6.3 (a);

(b) Integration energy delivered in accordance with paragraph 6.2 (b):

Class A: When unsalable to other customers of the United States;

Class B: When salable as low availability secondary energy;

Class C: When salable as priority interruptible secondary energy;

Class D: When salable as dump energy.

(c) Integration Firm Energy Capability delivered in accordance with paragraph 6.2 (c).

(d) Storage or other energy transfers under Article VII.

ARTICLE IX. CHARGES FOR SERVICE

9.1 The Company shall pay the United States for energy delivered under this agreement, in accordance with the classifications of the energy as in Article VIII set forth, at the following rates (copies of the rates presently in effect are attached hereto):

(a) Operating energy classified under paragraph 8.3 (a): Such energy shall be exchanged on basis 1 KWH equals 1 KWH.

(b) Integration energy classified under paragraph 8.3 (b):

Class A: No charge;

Class B: at Bonneville Power Administration Rate No S–1 in effect at the time;

Class C: at Bonneville Power Administration Rate No C–4 (as amended for Priority Interruptible Power) in effect at the time;

Class D: at Bonneville Power Administration Rate No H–3 in effect at the time.

(c) Integration Firm Energy Capability classified under paragraph 8.3 (c):— at Bonneville Power Administration Rate No C–4 in effect at the time.

9.2 Under this agreement, the Company will perform the services to the United States set forth in Article V at no cost to the United States, except as provided in paragraph 9.1 (a) above; *provided, however*, that such arrangement shall be subject to review each five years, and by written agreement such charges as may become appropriate shall be made.

9.3 The accounting period for settlements hereunder shall be the calendar month, unless otherwise agreed upon by the parties.

9.4 All bills for net amounts owed by Company to United States hereunder, except as otherwise herein provided, shall be due and payable on the fifteenth day of the month following the end of the period to which the bill is applicable, or on the tenth day following receipt by Company of a properly certified invoice or voucher, whichever date is later. In the event a portion of a bill, or of any other claim or adjustment arising hereunder, is disputed, payment shall be made when due of the portion not in dispute.

ARTICLE X. METERING AND POWER FACTOR

10.1 Electric energy will be made available to either party hereunder in the form of three phase current, alternating at a frequency of approximately sixty (60) cycles per second. Deliveries thereof at each point of delivery shall be made at the approximate voltage provided by the parties' facilities, and during the period specified, for such point. The amounts of electric energy and reactive power delivered at such point of delivery during each hour shall be the amounts determined, after making such adjustments for losses as may be indicated by using factors to be agreed upon by Operating Representatives, from measurements made by the United States' watt-hour, var-hour, and demand meters, respectively, installed, or to be installed, to record the flow of electric energy and reactive power at the place and in the circuit specified.

10.2 The United States will test the metering equipment owned by it at least once every two years, and if it is found to be inaccurate, will adjust or replace it. The Company will be given reasonable notice of the time when such tests will be made, and may have a representative present. At the request of the Company, the United States will make additional tests or inspections of the metering equipment owned by the latter in the presence of representatives of the Company, and the cost thereof will paid by the Company if the percentage of error is found to be less than two percent (2%) slow or fast.

10.3 If any test made shows any meter to be inaccurate by more than two percent (2%), or if any meter fails to register, an appropriate adjustment will be made in the amount of power delivered (a) for the actual period of incorrect

meter registration, if such period can be established, or (b) if not, for half the period from the date of the last preceding test of metering equipment; *provided, however,* that such period of adjustment shall not exceed six (6) months.

10.4 Each of the parties hereto will jointly plan and operate its system for mutual advantage and so that the flow of reactive power hereunder will not adversely affect the system of the other.

10.5 If any equipment or facilities of a party to this contract are, or are to be by the terms of this contract, located on the property of the other, a permit to install, test, maintain, inspect, replace, and repair during the term of this contract and to remove at the expiration of said term, such equipment and facilities, together with the right of ingress and egress at all reasonable times in such term, is hereby granted by the other party.

10.6 Each party shall have the right to read or inspect, at all reasonable times, upon request made to the other party, any and all meters mentioned in this contract which are installed on the property of such other party.

ARTICLE XI. UNCONTROLLABLE FORCES AND LIABILITY

11.1 Neither party shall be considered to be in default in respect to any obligation hereunder, if prevented from fulfilling such obligation by reason of uncontrollable forces. The term uncontrollable forces, for the purpose of this contract, shall mean any cause beyond the control of the party affected, including, but not limited to, failure of facilities, flood, earthquake, storm, lightning, fire, epidemic, act of God, war, riot, civil disturbance, strike, labor disturbance, or sabotage, which by exercise of due diligence and foresight such party could not reasonably have been expected to avoid. Either party rendered unable to fulfill any obligation by reason of uncontrollable forces shall exercise due diligence to remove such inability with all reasonable dispatch.

11.2 Each party shall defend and indemnify the other party against liability, loss, costs and expenses on account of injury (including death) to persons or destruction of or damage to property occasioned on or adjacent to the facilities on its side of the delivery points described herein, unless such injury or damage resulted from the sole negligence of the other party or of its officers, servants, agents or employees; *provided, however,* that each party shall be solely responsible for the claims of and payments to its employees and agents for injuries (including death) occurring in connection with their employment or arising out of any workmen's compensation law.

ARTICLE XII. GENERAL PROVISIONS

12.1 This agreement does not cancel, amend or otherwise affect Contract No. 14–03–001–11493, dated March 14, 1955, between the parties.

12.2 Nothing in this agreement shall be construed as a restriction or limitation on the Administrator to sell to preference or other customers of the United States the firm power which would be available to the Administrator without the existence of this agreement.

12.3 Nothing in this agreement shall be construed as a restriction or limitation on the Company in the sale of power and energy available to the Company hereunder, or in any way affecting the ability of the Company to perform its public utility responsibility to its customers in the areas now served and as such areas may be extended during the term of this agreement.

ARTICLE XIII. ARBITRATION

13.1 If at any time any dispute, difference or question shall arise between the parties concerning the application, construction or meaning of any of the terms or provisions of this agreement, except those dealing with rates and payment for power and energy, upon demand of either party the matter will be referred to arbitration. An offer of such reference to arbitration will be a condition precedent to any proceeding at law or in equity concerning such dispute, difference, or question: *provided, however,* that either party may without arbitration bring a proceeding to enjoin breach of this agreement.

13.2 Either party may serve written notice of demand for arbitration, naming one arbitrator. The party served with such notice shall appoint a second arbitrator, and the two so appointed shall appoint a third. In case of failure of the party served with notice to appoint a second arbitrator within ten (10) days, or failure of the two first appointed to appoint a third within ten (10) days after the appointment of the second, then the party demanding arbitration may, after

five (5) days' notice to the other party, apply for appointment of the second or third arbitrator, as the case may be, to any person who is a Judge of the United States District Court in Idaho or Oregon.

13.3 The arbitrators will hear such evidence as is submitted by the parties and will proceed to make a determination; *provided, however*, that the arbitrators will be entitled to call upon either party for additional information. The decision of a majority of the arbitrators will be binding upon the parties with respect to the matter submitted. All expenses of arbitration will be paid equally by the parties except that the compensation, if any, of the first and second members of the board of arbitration will be paid by the party by or for whom they were named.

ARTICLE XIV. INTEREST OF MEMBER OF CONGRESS

14.1 No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

ARTICLE XV. REPRESENTATIVES AND NOTICES

15.1 For the purposes of this agreement, except as may be otherwise specifically provided herein, and until receipt of further notice in writing to the contrary, either party shall be entitled to regard as the authorized representative of the other person designated below:

Representative of United States: Administrator, Bonneville Power Administration

Representative of Company: President, Idaho Power Company

15.2 Any notice to be given by one party to the other in accordance with the provisions of this agreement, or with respect to a matter relating hereto, shall be deemed to be adequately given if sent by registered mail, deposited in a United States post office in Idaho or Oregon one day before the day as of which the notice is intended to be given, and addressed as follows:

Notice to United States, addressed to the
Administrator
Bonneville Power Administration
Portland 8, Oregon

Notice to Company, addressed to the
President, Idaho Power Company
1220 Idaho Street
Boise, Idaho

Either party may from time to time specify by notice in writing a different address to which notices are to be sent.

ARTICLE XVI. TERM AND APPROVAL OF CONTRACT

16.1 This agreement shall become effective as of the date first above written (subject to the provisions of paragraph 16.2), and shall remain in effect during the term of the Company's Federal Power Commission license (Project No. 1971) to the Company, ending July 31, 2005.

16.2 This agreement shall not be binding upon the parties hereto until it has been approved by the Secretary of the Interior, the Federal Power Commission, the Public Utilities Commissioner of Oregon, the Idaho Public Utilities Commission and the Public Service Commission of Nevada, but when so approved, shall be effective immediately.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officers as of the date first herein written.

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,

[SEAL] By ----------
Bonneville Power Administrator.

IDAHO POWER COMPANY,

[SEAL] By ----------
President.

Attest:

Secretary.

AUGUST 26, 1957.

Mr. T. E. ROACH,
President, Idaho Power Co.,
Boise, Idaho.

DEAR MR. ROACH: Since the meeting the other day, at which time we discussed coordination of your projects and the Federal generation, I have contacted the Army engineers and the Pacific Northwest Power Co., and they have agreed to have someone present to represent them at the meeting on Wednesday, September 4, at 8:30 a. m. at the Bonneville office here in Portland.

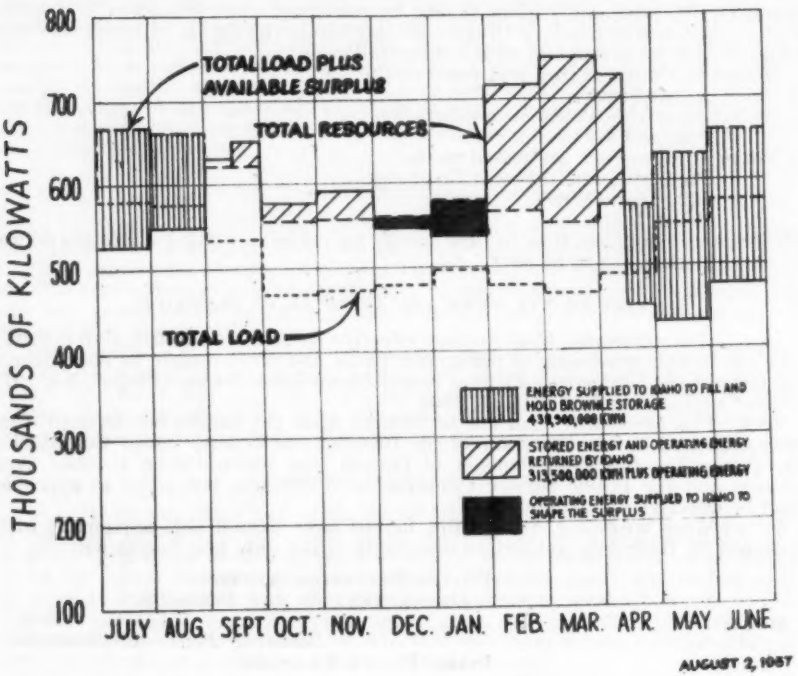
A second meeting will be scheduled for some time later, at which time it would be desirable if one of your top staff could be present. At this time we would discuss with the aid of these figures some of the policy items.

Sincerely yours,

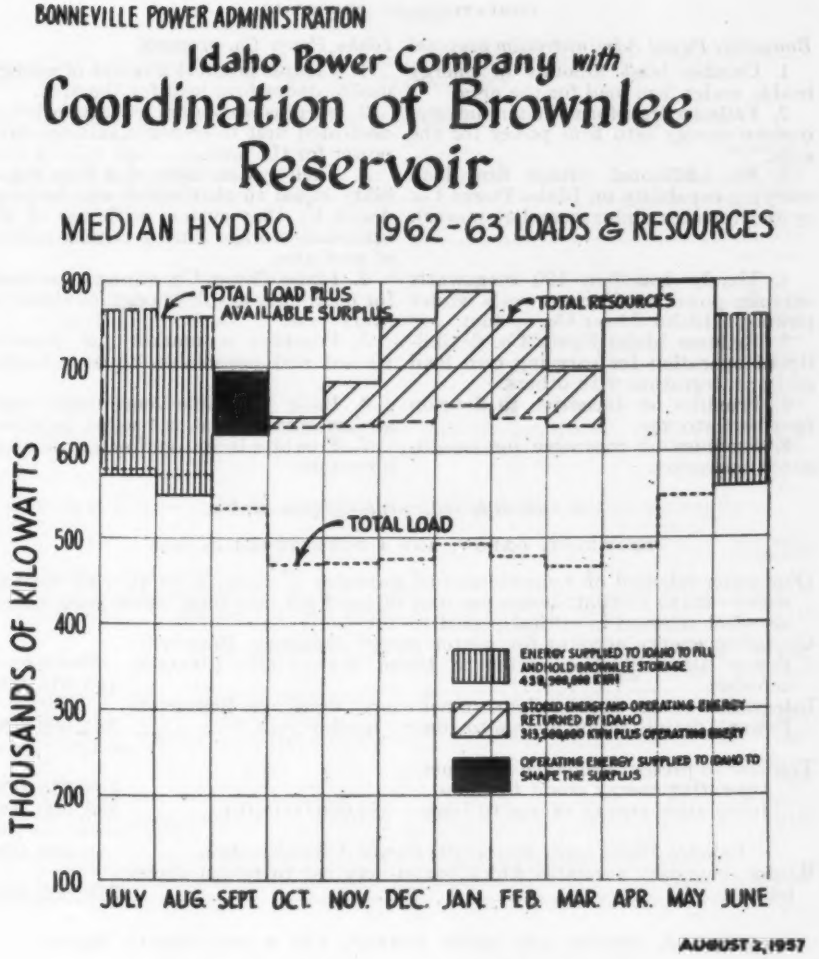
WM. A. PEARL, *Administrator.*

BONNEVILLE POWER ADMINISTRATION

Idaho Power Company
with
COORDINATION OF BROWNLEE RESERVOIR
CRITICAL HYDRO 1962-63 LOADS & RESOURCES


THOUSANDS OF KILOWATTS
800
700
600
500
400
300
200
100
TOTAL LOAD PLUS AVAILABLE SURPLUS
TOTAL RESOURCES
TOTAL LOAD
ENERGY SUPPLIED TO IDAHO TO FILL AND HOLD BROWNLEE STORAGE 438,500,000 KWH
STORED ENERGY AND OPERATING ENERGY RETURNED BY IDAHO 313,500,000 KWH PLUS OPERATING ENERGY
OPERATING ENERGY SUPPLIED TO IDAHO TO SHAPE THE SURPLUS
JULY AUG. SEPT OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE

AUGUST 2, 1957



BASIC DATA FOR COORDINATION AGREEMENT—BONNEVILLE POWER ADMINISTRATION-IDAHO POWER CO.

Presented August 7, 1957, by Idaho Power

REASONS FOR COORDINATION

1. Produce the maximum amount of firm power for the area.
2. Produce the maximum amount of otherwise useful energy for the area.
3. Increase total area firm capability by reason of stream diversity.
4. Increase total area firm capability by reason of load diversity.
5. Provide diversity of peak loads, breakdown reserve, and maintenance outages.
6. Assure to each utility a firm load capability during pool critical water conditions.
7. Distribute equitably the benefits received from headwater improvements.
8. Encourage upstream storage that is needed by the area.

COMPARISON OF PROPOSALS

Bonneville Power Administration proposal	*Idaho Power Co. proposal*
1. Creates least amount of energy usable under firm load for the area.	1. Creates greatest amount of energy usable under firm load for the area.
2. Fails to transform maximum secondary energy into firm power for the area.	2. Surplus secondary energy is being dedicated first to create maximum firm power for the area.
3. No additional winter firm load carrying capability on Idaho Power Co. system (creates winter secondary power).	3. Each system assured a firm capability equal to that which can be produced by that system with use of all upstream storage during critical period of pool area.
4. Merely transfers 120 megawatts summer power to 88 megawatts winter power on Idaho Power Co. system.	4. Idaho Power Co. storage operated for maximum usable energy for the area every year.
5. Reduces Idaho Power Co. flexibility of operation for carrying own load and/or integration with others.	5. Provides a market for present wasted and nonsalable kilowatt-hours.
6. Provides no incentive to develop upstream storage.	6. Basic principle encourages upstream storage that is needed by area.
7. Provides no incentive for coordinated operation.	7. Provides incentive for coordinated operation.

A method of settlement—median water

BROWNLEE, OXBOW, AND 4 DOWNSTREAM PLANTS

(For water released on request: annual payment ½ energy generated by storage water—0.445 kilowatt-hours per foot of head per acre-foot, times head, times acre-feet released in critical period)

	Kilowatt-hours
Operating energy account for winter energy exchange, Bonneville Power Administration credit to Idaho: 0.445×327×1,000,000 acre-feet	145, 515, 000
Integration energy account for summer energy exchange, Bonneville Power Administration charge to Idaho: median year	584, 000, 000
Transfer to present exchange agreement:	
Operating energy credit to Idaho	145, 515, 000
Integration energy charge to Idaho: 584,000,000×0.4	233, 600, 000
Balance Idaho owes Bonneville Power Administration	88, 085, 000
Winter secondary available which Idaho may use to return above balance	378, 000, 000

BROWNLEE, OXBOW, AND HELLS CANYON, AND 8 DOWNSTREAM PLANTS

	Kilowatt-hours
Operating energy account for winter energy exchange, Bonneville Power Administration credit to Idaho: 0.445×697 feet×1,000,000 acre-feet	310, 165, 000
Integration energy account for summer energy exchange, Bonneville Power Administration charge to Idaho: median year	855, 560, 000
Transfer to present exchange agreement:	
Operating energy credit to Idaho	310, 165, 000
Integration energy charge to Idaho: 855,560,000×0.4	342, 224, 000
Balance Idaho owes Bonneville Power Administration	32, 059, 000
Winter secondary available which Idaho may use to return above balance	617, 799, 000

WET YEAR

BENEFIT FROM COORDINATION OF BROWNLEE WITH NORTHWEST POWER POOL—1941–63 STREAMFLOWS

TABLE I–B.—*1962–63 operating year—System prime power capability* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	6, 503
Brownlee and Oxbow	456
Total	6, 959
Independent operation of Brownlee:	
Main Columbia River system	6, 454
Brownlee and Oxbow	338
Total	6, 792
Benefit from coordination [2]	167

[1] Average capability during storage drawdown season (Sept. 1 through Mar. 31).
[2] Annual benefit at Brownlee and Oxbow with coordinated operation amounts to 44 average megawatts.

TABLE II–B.—*1964–65 operating year—System prime power capability* [1]

	Average megawatts
Coordinated operation:	
Main Columbia River system	6, 512
Brownlee, Oxbow, and Hells Canyon	710
Total	7, 222
Independent operation of Brownlee:	
Main Columbia River system	6, 449
Brownlee, Oxbow, and Hells Canyon	563
Total	7, 012
Benefit from coordination [2]	210

[1] Average capability during storage drawdown season (September 1 through March 31).
[2] Annual benefit at Brownlee, Oxbow, and Hells Canyon with coordinated operation amounts to 47 average megawatts.

IDAHO POWER CO.—LOADS AND RESOURCES WITH INTEGRATED BROWNLEE REGULATIONS

TABLE III–B.—*1962–63, 1941–42 hydro with Brownlee regulations*

[In megawatts]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Average:												
Idaho Power Co., load	582	574	534	468	471	476	494	479	467	488	548	575
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Brownlee generation	208	232	271	273	231	329	360	360	299	315	360	360
Oxbow generation	83	92	108	109	129	135	153	172	174	176	166	165
U. S. Bureau of Reclamation surplus or (deficiency)	30	29	19	(6)	(5)	(7)	3	15	27	25	38	43
Total hydro	560	592	638	619	696	710	777	801	746	797	821	833
Surplus or (deficiency)	(22)	18	104	151	225	234	283	322	279	309	273	258
Peak:												
Idaho Power Co., load	772	769	731	645	663	670	692	654	627	667	744	783
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Brownlee generation	414	414	414	414	414	414	414	351	248	383	414	414
Oxbow generation	226	226	226	226	226	226	226	226	226	226	226	226
U. S. Bureau of Reclamation surplus or (deficiency)	26	11	(13)	77	118	115	115	120	123	81	28	27
Total hydro	1,025	1,010	988	1,079	1,120	1,117	1,115	1,058	958	1,051	1,027	1,026
Surplus	253	241	257	434	457	447	423	404	331	384	283	243

TABLE IV–B.—*1964–65, 1941–42 hydro with Brownlee regulation*

[In megawatts]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Average:												
Idaho Power Co., load	636	626	582	507	510	516	538	520	506	529	598	628
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Brownlee generation	208	232	271	273	321	329	360	360	299	315	360	360
Oxbow generation	83	92	108	109	129	135	153	172	174	176	166	165
Hells Canyon generation	150	167	196	197	235	245	279	313	316	320	301	299
U. S. Bureau of Reclamation surplus or (deficiency)	24	22	12	(14)	(12)	(15)	(2)	9	22	18	33	38
Total hydro	704	752	827	810	924	947	1,051	1,108	1,057	1,110	1,117	1,127
Surplus	68	126	245	303	414	431	513	588	551	581	519	499
Peak:												
Idaho Power Co., load	847	843	801	703	723	732	756	713	683	727	815	859
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Brownlee generation	414	414	414	414	414	414	414	351	248	383	414	414
Oxbow generation	226	226	226	226	226	226	226	226	226	226	226	226
Hells Canyon generation	320	400	400	400	400	400	400	400	400	400	400	400
U. S. Bureau of Reclamation surplus or (deficiency)	15	(1)	(24)	66	106	104	106	111	114	71	20	19
Total hydro	1,334	1,398	1,377	1,468	1,508	1,506	1,506	1,449	1,349	1,441	1,419	1,418
Surplus	487	555	576	765	785	774	750	736	666	714	604	559

IDAHO POWER CO.—LOADS AND RESOURCES

INDEPENDENT OPERATION

TABLE V–B.—*1962–63, 1941–42 hydro*

[In megawatts]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Average:												
Idaho Power Co., load	582	574	534	468	471	476	494	479	467	488	548	575
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Mid-Snake plants	423	416	385	341	335	340	340	320	304	524	535	550
U. S. Bureau of Reclamation surplus or (deficiency)	30	29	19	(6)	(5)	(7)	3	15	27	25	38	43
Total hydro	692	684	644	578	581	586	604	589	577	830	830	858
Surplus	110	110	110	110	110	110	110	110	110	342	282	283
Peak:												
Idaho Power Co., load	772	769	731	645	663	670	692	654	627	667	744	783
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Mid-Snake plants	640	622	568	536	512	536	500	515	484	640	640	640
U. S. Bureau of Reclamation surplus or (deficiency)	26	11	(13)	77	118	115	115	120	123	81	28	27
Total hydro	1,025	992	916	975	992	1,013	975	996	968	1,082	1,027	1,026
Surplus	253	223	185	330	329	343	283	342	341	415	283	243

TABLE VI–B.—*1964–65, 1941–42 hydro*

[In megawatts]

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Average:												
Idaho Power Co., load	636	626	582	507	510	516	538	520	506	529	598	628
Present system hydro	239	239	240	243	251	253	261	254	246	281	257	265
Mid-Snake plants	660	652	617	563	558	565	566	544	525	841	801	891
U. S. Bureau of Reclamation surplus or (deficiency)	24	22	12	(12)	(12)	(15)	(2)	9	22	18	33	38
Total hydro	923	913	869	794	797	803	825	807	793	1,140	1,091	1,194
Surplus	287	287	287	287	287	287	287	287	287	611	493	566
Peak:												
Idaho Power Co., load	847	843	801	703	723	732	756	713	683	727	815	859
Present system hydro	359	359	361	362	362	362	360	361	361	361	359	359
Mid-Snake plants	960	1,014	959	924	896	916	875	878	917	1,040	1,040	1,040
U. S. Bureau of Reclamation surplus or (deficiency)	15	(1)	(24)	66	106	104	106	111	114	71	20	19
Total hydro	1,334	1,372	1,296	1,352	1,364	1,382	1,341	1,350	1,392	1,472	1,419	1,418
Surplus	487	529	495	649	641	650	585	637	709	745	604	559

LETTER OF SENATOR JAMES E. MURRAY TO DR. WILLIAM A. PEARL, ADMINISTRATOR, BONNEVILLE POWER ADMINISTRATION

JANUARY 3, 1958.

WILLIAM A. PEARL,
Administrator, Bonneville Power Administration,
Portland, Oreg.

DEAR DR. PEARL: Thank you for the information transmitted to me on November 6, 1957. I find upon examination of it that no consideration appears to have been given in any of the negotiations which so far have transpired to the furnishing of power to the rural electric cooperatives and Government purchasers in the southern Idaho area. Do you conceive that the preference principles in the Bonneville Power Act have no application to this type of situation?

I would also like to receive from you an elaboration or explanation of one of the exhibits entitled "A Method of Settlement." This exhibit purports to be an extension for a median water year of the method of settlement between Idaho Power and Bonneville of winter storage for summer energy. If I read this exhibit correctly, the item entitled, "Integration Energy Charge to Idaho, 855,560,000 times 0.4" is an arithmetical expression of the concept that 2½ kilowatt-hours of Bonneville Power is to be exchanged for 1 kilowatt-hour of power generated by the Idaho Power Co. facilities.

I would appreciate hearing from you on these matters at your earliest convenience and if possible by the 20th of January.

Very truly yours,

JAMES E. MURRAY,
Chairman, Interior and Insular Affairs Committee.

REPLY OF ADMINISTRATOR PEARL TO SENATOR JAMES E. MURRAY

DEPARTMENT OF THE INTERIOR,
BONNEVILLE POWER ADMINISTRATION,
Portland, Oreg., January 15, 1958.

Hon. JAMES E. MURRAY,
United States Senate,
Washington, D. C.

DEAR SENATOR MURRAY: This will acknowledge your letter of January 3 with reference to our pending study and discussion of the problem of coordination of the Idaho Power Co.'s Snake River project with the Federal Columbia River system.

Furnishing power from the Federal Columbia River system to the rural electric cooperatives and other Government customers in the southern Idaho area presents numerous questions which are under study.

On December 20, 1957, Assistant Secretary Aandahl addressed a letter to Mr. E. H. Paskett, president of the Raft River Rural Electric Cooperative, Inc., Malta, Idaho, setting forth the Department's views to date on this subject. I had been under the impression that you were furnished a copy of this letter, but in the event this is not the case, I am enclosing a copy of that letter and of a further reply to Mr. Paskett, together with copies of Mr. Paskett's letters to the Department.

The exhibit entitled "A Method of Settlement" to which you refer was a suggestion presented by the Idaho Power Co. at a meeting on August 7, 1957. This suggestion proposed that the Idaho Power Co. would pay 1 mill per kilowatt-hour for surplus summertime energy used to fill the Brownlee Reservoir and to carry its summer load. Bonneville's exchange accounts are settled at our "H" (dump) rate of 2½ mills per kilowatt-hour. In order to put this 855,560,000 kilowatt-hours in an exchange account at a 1 mill per kilowatt-hour rate, it would be necessary to multiply the number of kilowatt-hours by 0.4. The resulting balances in the account would be settled at a rate of 2½ mills per kilowatt-hour.

This suggestion has never received serious consideration by our staff, and at this meeting the Idaho Power Co. representatives were advised that no special rate would be considered and that any settlement would have to be made at our regular Federal Power Commission approved rates.

Sincerely yours,

WM. A. PEARL, *Administrator.*

RAFT RIVER ELECTRIC COOPERATIVE, INC.,
Malta, Idaho, October 11, 1957.

Hon. FRED A. SEATON,
Secretary of Interior, Department of the Interior,
Washington, D. C.

DEAR MR. SECRETARY: We have learned on good authority that the Idaho Power Co. is seeking to negotiate a contract with Bonneville Power Administration for the exchange of power between southern Idaho and the rest of the Columbia Basin over their LeGrande tie, in which they are asking for 3 kilowatts of summer pumping power for 1 kilowatt of storage released from Brownlee.

We urge you to consider that the execution of such a contract fundamentally puts us in the Bonneville marketing area since we are tied right to the Idaho power transmission grid with our transmission line.

We are desperately in need of more power, especially irrigation pumping power. We were informed by the Bureau of Reclamation that "we were lucky we didn't have the switch pulled on us" last summer.

We have tried to buy power from Idaho Power Co. but as yet have not had a better rate quoted than 13 mills which is much higher than we can be expected to pay; since Idaho Power delivers irrigation pumping power to their own consumers in this area for approximately 6.5 mills.

Here we have two separate marketing agencies in the same river basin, both under the Department of the Interior and physically integrated. The one agency is short of power to serve its preference customers and the other has an abundance of power available at the time the other is short, clearly then it is the responsibility of the Secretary of the Interior to act according to the provisions of the preference law and take action to insure that the preference customers who are in need are served.

The Government as well as the people of the Northwest would benefit greatly if the two systems were integrated and coordinated.

We respectfully request that in connection with the present negotiations for exchange of power with the Idaho Power Co. under the requirements of the Federal Power Commission license for Brownlee Dam that your administration stipulate as a condition for any contract that the Idaho Power Co. agree to wheel Columbia River power or other Government energy under Bonneville Power Administration standard wheeling agreements to all preference customers within the reach of Idaho Power Co. facilities.

We furthermore respectfully urge that any exchange or sales contract be immediately null and void if the company declines at any time to wheel to preference customers.

Very truly yours,

EDWIN H. PASKETT,
President, Raft River Rural Electric Cooperative, Inc.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., December 20, 1957.

Mr. EDWIN H. PASKETT,
Raft River Rural Electric Cooperative, Inc.,
Malta, Idaho.

DEAR MR. PASKETT: This is in further reply to your letter of October 11 in which you request that the Department give consideration to working out an arrangement whereby your cooperative will receive additional Government power for irrigation pumping. You also request that we use the occasion for the negotiation of an exchange agreement with the Idaho Power Co. for the coordination of its Brownlee and Oxbow projects with the Northwest power pool as a means of getting wheeling provisions for Columbia River power.

In this instance, coordination of the Idaho Power Co's Brownlee and Oxbow plants with the Northwest power pool and the wheeling of Bonneville Power Administration secondary energy by the company are not interrelated and one should not be used as a leverage for the other. The FPC license requires coordination, and the Department cannot as a matter of right under the license require the Idaho Power Co. to contract to wheel Columbia River power for the Government.

The staffs of the Bureau of Reclamation and the Bonneville Power Administration are making studies which will throw additional light on the feasibility

of the Bureau of Reclamation utilizing Bonneville Power Administration dump energy to serve additional power to your cooperative and others in southern Idaho. However, we must caution that there is a serious question as to whether this dump energy would be of any real benefit to your cooperative without the availability of some other source of firming energy and a satisfactory wheeling arrangement. It must also be borne in mind that the wheeling distance is in excess of 300 miles and the wheeling cost would have a substantial impact on the economic feasibility.

Upon completion of the above-mentioned studies, we shall advise you further regarding this matter. In the meantime, the Bureau of Reclamation regional office will be in touch with you on the various aspects of the problem.

Sincerely yours,

(Signed) FRED G. AANDAHL,
Assistant Secretary of the Interior.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., December 20, 1957.

Mr. H. M. HINTZE,
President, Lost River Electric Cooperative, Inc.,
Mackay, Idaho.

DEAR MR. HINTZE: This is in further reply to your letter of October 30 in which you request that the Department give consideration to working out an arrangement whereby your cooperative will receive additional Government power for irrigation pumping. You also request that we use the occasion for the negotiation of an exchange agreement with the Idaho Power Co. for the coordination of its Brownlee and Oxbow projects with the northwest power pool as a means of getting wheeling provision for Columbia River power.

In this instance, coordination of the Idaho Power Co.'s Brownlee and Oxbow plants with the northwest power pool and the wheeling of the Bonneville Power Administration secondary energy by the company are not interrelated and one should not be used as a leverage for the other. The FPC license requires coordination, and the Department cannot as a matter of right under the license require the Idaho Power Co. to contract to wheel Columbia River power for the Government.

The staffs of the Bureau of Reclamation and the Bonneville Power Administration are making studies which will throw additional light on the feasibility of the Bureau of Reclamation utilizing Bonneville Power Administration dump energy to serve additional power to your cooperative and others in southern Idaho. However, we must caution there is a serious question as to whether this dump energy would be of any real benefit to your cooperative without the availability of some other source of firming energy and a satisfactory wheeling arrangement. It must also be borne in mind that the wheeling distance is in excess of 300 miles and the wheeling cost would have a substantial impact on the economic feasibility.

Upon completion of the above-mentioned studies, we shall advise you further regarding this matter. In the meantime, the Bureau of Reclamation regional office will be in touch with you on the various aspects of the problem.

Sincerely yours,

FRED G. AANDAHL,
Assistant Secretary of the Interior.

RAFT RIVER ELECTRIC COOPERATIVE, INC.,
Malta, Idaho, January 2, 1958.

Mr. FRED G. AANDAHL,
Assistant Secretary of the Interior,
Washington, D. C.

DEAR MR. AANDAHL: Reference is made to your reply of December 20, 1957, to our letter of October 11 in which we requested that, in order to relieve the power shortage in southern Idaho and to financially enhance the Federal Government's power operations in the area, the Bureau of Reclamation, region 1, attempt to work out an arrangement with Bonneville Power Administration to wheel some power into Idaho from the Bonneville system.

We note that you make specific reference that the FPC requirement that Idaho Power Co. coordinate their Brownlee Dam with the northwest power pool is in no way related to the wheeling of power between the northwest power pool and the southern Idaho power pool.

After all the northwest power pool is practically all Bonneville Administration power and the southern Idaho pool is, in a very substantial part, Bureau of Reclamation power.

If coordination of the two systems does not mean the exchange of energy for the greatest benefit to the most people concerned, then what does it mean?

Does it mean only that Idaho Power Co. is to be allowed to sit between the two systems owned by the people and reap the benefits of power exchange which in reality gives them firm power from the Government plants at dump power rates? Is this to be allowed especially when the company shows no consideration for the urgent requirements of a large block of the public for power at a reasonable cost?

We also note that the staffs of the Bureau and of Bonneville are studying the situation to see if there is feasibility of the Bureau using any of Bonneville's dump power.

We also have had studies made that show that the Bureau has huge blocks of secondary energy that only need a small amount of firming in 1 year out of 22 to make it firm power.

Since Bonneville's critical water year has not coincided, in the past, with the Bureau's critical water year it would appear that there are indeed great benefits to be had with an exchange agreement.

The fact that we are 300 miles from Bonneville system should be no great disadvantage since southern Oregon is about the same distance, yet they enjoy a 4-mill rate from Bonneville Power.

Another fact which indicates that the wheeling distance is of no consequence is that Idaho Power Co. is asking for 200,000 kilowatts of Bonneville Power to be wheeled into their system and we are situated very near the heart of that system.

I am sure that when all the facts concerning the situation are viewed with clarity and an attitude of fairmindedness that a solution to the problem will be found that will be of benefit to all concerned.

Very truly yours,

EDWIN H. PASKETT, *President.*

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., January 14, 1958.

Mr. EDWIN H. PASKETT,
President, Raft River Electric Cooperative, Inc.,
Malta, Idaho.

DEAR MR. PASKETT: Thank you for your letter of January 2 referring to the possibility of supplying surplus Bonneville Power Administration energy to your cooperative.

We would suggest that you make available to the Bureau of Reclamation and the Bonneville Power Administration, if you have not already done so, the studies your organization has made with respect to secondary energy on the Bureau's system and its relationship to the BPA system operations.

In the discussion in our December 20, 1957, letter of the relationship of wheeling to the problem of coordination, we intended only to indicate that the wheeling of federally generated power to the Government's customers is not a requirement imposed upon the Idaho Power Co. by the FPC license provision with respect to coordination by the company with the northwest power pool.

We are giving continuing attention to power marketing activities in the Pacific Northwest as they relate to the problems concerning the Raft River Electric Cooperative. As previously indicated, you will be advised as to our progress.

Sincerely yours,

(Signed) FRED G. AANDAHL,
Assistant Secretary of the Interior.

LETTER OF SENATOR JAMES E. MURRAY TO SECRETARY SEATON IN REGARD TO WHEELING

UNITED STATES SENATE,
January 27, 1958.

Hon. FRED A. SEATON,
Secretary of the Interior,
Washington, D. C.

DEAR MR. SECRETARY: I have had the opportunity of reviewing the correspondence between your Department and certain rural electric cooperatives in southern Idaho, and between your Department and Senator Church in which Assistant Secretary Fred G. Aandahl has acted as spokesman for the Department; particularly I have reviewed Mr. Aandahl's letter of December 20, 1957, which was sent to a number of the cooperatives. This letter raises questions having to do with your supervisory responsibility in the area of the Bonneville Power Act and certain other public project authorization bills, and I would like your views on these policy questions.

Mr. Aandahl, in connection with the requests from the cooperatives for assistance in working out arrangements whereby they might receive additional Government power for irrigation pumping, has told the cooperatives that there is no interrelation between coordination of Idaho Power Co. plants at Brownlee and Oxbow with the northwest power pool and the wheeling of Bonneville power. He also raises the question of whether the wheeling distance might not substantially adversely affect the economic feasibility. He leaves the matter of further negotiations to the regional office of the Bureau of Reclamation in Boise.

I believe that the statement made by Justice Douglas in *Federal Power Commission* v. *Idaho Power Company* (344, U. S. 17, 23, 1952) is relevant on Mr. Aandahl's first point. Therein Justice Douglas, for the Court, said:

"Protection of the public domain, conservation of water-power resources, development of comprehensive plans for the waterways—each of these might in the facts of a case be sufficient to authorize the grant of permission to a public utility company to use the public domain provided it agreed to use its excess capacity to transmit Government power."

When Mr. Aandahl says, as he does, that "the Department cannot as a matter of right under the license require the Idaho Power Co. to contract to wheel Columbia River power for the Government," I think he equivocates on the basic issue. I think this for two reasons:

(*a*) In the first place, the United States is not precluded by the FPC license from inserting whatever terms and conditions it legally might in its contract with the Idaho Power Co. I don't see anything about the wheeling agreement which would make this subject matter improper for consideration, and I don't see anything improper in the

Secretary of the Interior suggesting to Bonneville Power Administration that negotiations be conducted to this end.

(*b*) Furthermore, it is my understanding that some of the transmission lines of Idaho Power Co. of necessity must traverse public lands. Is there any reason why you, as Secretary, could not reinstitute a regulation to require wheeling as a condition of the use of these public lands?

The basic policy question avoided by Mr. Aandahl, as I see it, is the question whether your Department takes the view that the Government has any responsibility whatever to these southern Idaho preference customers. If you feel, as I do, that it does, then there is adequate legal basis for the Government to make such responsibility effective.

I am very much surprised that Mr. Aandahl raises the question of economic feasibility of wheeling to the preference customers in the face of the fact that obviously Idaho Power Co. considers the distance not infeasible.

Further, the very fact that this question was raised indicates that at least some officials in your Department accept a position detrimental to the United States on the question of wheeling cost. If I understand wheeling arrangements, they contemplate only the utilization of unused or excess capacity. This being the case, cost of wheeling the Government power would be nominal. If, however, price of wheeling (as opposed to cost) is negotiated on the basic assumption that the Government cannot require Idaho Power Co. to wheel, then price partakes of the nature of tribute to be paid to the private power company limited only by the amount the Government would have to pay to install its own transmission lines. It is offensive to me that public power users, such as these co-ops, should pay tribute to Idaho Power Co. for the use of excess or unused (i. e., otherwise wasted) capacity. This represents economic waste.

I hope you will give this matter your earnest consideration, for it is only in the framework of thought-out administrative policy that the necessity for additional legislation can be properly assessed.

Sincerely,

JAMES E. MURRAY, *Chairman*.

REPLY OF ACTING SECRETARY CHILSON TO SENATOR MURRAY IN REGARD TO WHEELING

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., February 17, 1958.

Hon. JAMES E. MURRAY,
United States Senate, Washington, D. C.

DEAR SENATOR MURRAY: Thank you for your letter of January 27 regarding the rural electric cooperatives in southern Idaho. We are giving continuing attention to these problems and will be pleased to keep you advised as to the progress of our studies.

We are pleased to receive your comments. However, we must observe that any lines constructed by the company in connection with Brownlee would come under the jurisdiction of the Federal Power Commission and that the problem of wheeling is not resolved by the coordination requirement of the FPC license.

If wheeling arrangements are to be consummated they must be arrived at through contract negotiations. The Department, of course, possesses authority to enter into a wheeling agreement for purposes of southern Idaho power marketing. However, that not being embraced in the coordination requirement, a wheeling agreement, if reached, must be premised upon contract negotiation elements outside the license requirements of coordination per se.

We are, as you know, now serving the preference customers in southern Idaho. Since we are desirous of assisting these customers in increasing their power supply, we are exploring the available means of making surplus power from the Bonneville area available to the Bureau of Reclamation for additional service to their load area. Among the matters under consideration are the characteristics of power that might be made available, economic factors and the wheeling problem.

Sincerely yours,

HATFIELD CHILSON,
Acting Secretary of the Interior.

25098—58——6

LETTER OF SENATOR FRANK CHURCH TO SENATOR JAMES E. MURRAY

UNITED STATES SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
March 10, 1958.

Hon. JAMES E. MURRAY,
Chairman, Interior and Insular Affairs,
Senate Office Building, Washington, D. C.

DEAR SENATOR MURRAY: Information I have received indicates that the negotiations between the Idaho Power Co. and the Bonneville Power Administration, on the interchange and exchange of power between their two systems after Brownlee is constructed, are at quite an advanced stage.

As yet I have no satisfactory assurances in the interest of the southern Idaho cooperatives and other public power users.

I hope, therefore, that you are still giving consideration to the holding of hearings to inquire into this matter; and, if you are, I would like to participate.

Sincerely,

FRANK CHURCH.

LETTER OF ASSISTANT SECRETARY FRED G. AANDAHL SUBMITTING SUPPLEMENTAL DATA ON NEGOTIATIONS

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, March 24, 1958.

Hon. JAMES E. MURRAY,
Chairman, Committee on Interior and Insular Affairs,
United States Senate, Washington, D. C.

DEAR SENATOR MURRAY: Your telegram of March 5 to the Bonneville Power Administrator requested that he bring you up to date on the negotiations with the Idaho Power Co. relative to coordination of its Snake River developments now under construction with the Northwest Power Pool.

There have been several meetings with the Idaho Power Co. during the period since November 6, 1957, but no letters or studies were exchanged with the company during this time.

The Administrator has forwarded to us for transmittal to you the enclosed copies of reports of meetings which will bring you up to date on the negotiations since our earlier submittal of documents to you on November 6, 1957.

As in the case of our November 6, 1957, transmittal, we wish to emphasize the exploratory and preliminary character of the present discussions.

You may be assured that in arriving at arrangements for coordination, whether they take the form of an interchange arrangement or of a sale of energy from the Government to the company, or a combination of the two, we shall continue to adhere to the fundamental principles which we outlined in our letter to you of November 6, 1957. These principles, which will govern the terms of the exchange are that it should be in a ratio equitable to both parties taking cognizance of the fact that power exchanged is in a large degree surplus to the requirements of the generating entity at the time of its generation. Any sale of power which may accompany the exchange will be at Bonneville's existing standard rate for the class of service involved. The S–1 rate in which the company has expressed interest is not an approved rate and cannot be used in these negotiations. The coordination of the licensed projects with the Northwest Power Pool being required as a condition of the license issued by the United States, it is likewise fundamental that the generation at downstream Federal plants from water released at Brownlee are not to be considered in determining the ratio for the exchange of energy.

We are happy to keep your committee fully informed on the progress of our discussions with the company. As we stated in concluding our letter of November 6, 1957, before any arrangements are formalized it is also our intention to thoroughly discuss them with the Government's customers, customer associations and other interested groups as represented by the Bonneville Regional Advisory Council.

Sincerely yours,

FRED G. AANDAHL,
Assistant Secretary of the Interior.

CONFERENCE AND TELEPHONE CALL REPORT

NOVEMBER 12, 1957.

To: Office of the Administrator.
From: Miller Evans, Director of O. and M.
Idaho meeting of November 7, 1957: For Idaho Power Co., Finas Harvey, Bob Hogg. For BPA: Messrs. Pearl, Coulter, Starr, Morthland, Mohler, Evans, McIntyre, Conkling, Jourolmon.

The meeting was called at the request of Dr. Pearl primarily to obtain an indication of the benefits of coordination between the Administration's system and that of the Idaho Power Co., and to obtain concurrence, if possible, from the Idaho representatives of the indicated benefits. These benefits were summarized on the blackboard by Mr. McIntyre, with the help of Mr. Mohler, as follows:

Coordination of BPA and Idaho systems

[Megawatts]

	(1)	(2)
Federal system coordinated with Idaho	3,895	3,890
Federal system isolated	3,844	3,841
[1] In 1962–63 with Brownlee and Oxbow gain	51	49
[2] In 1964–65 with Brownlee, Oxbow and Hells Canyon, less loss on Federal system	5	6
Net gain on Federal system	46	43
Idaho system coordinated operation and under 1936–37 conditions	568	752
Idaho system isolated and under 1934–35 conditions	505	672
Gain from 1934–35 to 1936–37 conditions due to annual diversities	63	80
Gain by seasonal exchange of energy on both systems	93	129
(From above) Net gain on Federal system	46	43
Total gain on 2 systems	202	252

Using ratios of exchange of 10/14 [3] [5] and 10/10,[4] [6] benefits accrue as shown:

	10/14 (3)	10/10 (4)	10/14 (5)	10/10 (6)
BPA	46	46	43	43
Idaho	86	70	105	81
BPA	70	86	104	128
Total gain	202	202	252	252

NOTE.—Under condition 3, 500 million kilowatt-hours goes to Idaho and 357 million kilowatt-hours is returned to BPA.
Under condition 4, the exchange is 10/10 and is therefore even exchange of 441 million kilowatt-hours.
Under condition 5, 741 million kilowatt-hours goes to Idaho and 529 million kilowatt-hours is returned to BPA.
Under condition 6, the exchange is 10/10 and is therefore an even exchange of 652 million kilowatt-hours.

It will be noted that under condition 1, for example, which occurs in 1962–63 with Brownlee and Oxbow in operation, there is a gain of 46 megawatts on the Federal system. Under this same condition the gain from Idaho's critical year of 1934–35 to the Administration's critical year of 1936–37 is 63 megawatts. The gain by seasonal exchange of energy, again under condition 1 is 93 megawatts making a total gain to the two systems of 202 megawatts.

Under condition 2, that is 1964–65, and with Hells Canyon added, there is a similar gain of 252 megawatts. Dr. Pearl asked the Idaho people if they agreed on the above figures showing gains to the two systems. They were in "substantial agreement" which means, according to Mr. Hogg, that the variation in their figures might be 4 or 5 megawatts but no more.

The latter part of the tabulation indicates the sharing of benefits under both the above-mentioned conditions using a 10/14 ratio of exchange and a 10/10 ratio of exchange. These data were placed on the board primarily for the edification of those present and in no way were intended to indicate that the Idaho people concurred in this apportionment, which they definitely do not.

There was considerable discussion on the overall subject of coordination but the above tabulation can well reflect the substance of the meeting. There was no material exchanged; the discussion was entirely from the data presented on the blackboard.

CONFERENCE AND TELEPHONE CALL REPORT

DECEMBER 20, 1957.

To: Office of the Administrator
From: Bernard Goldhammer

Meeting on December 18, 1957, with Idaho Power Co.
Present were:
For Idaho Power Co.: Robert A. Hogg, R. E. Gale, John Kimball, (all of Boise, Idaho).
For BPA: Dr. Pearl, J. Lane Morthland, R. L. Conkling, Miller Evans, E. D. Ostrander, E. C. Starr, H. M. McIntyre, B. Goldhammer, R. C. Coulter (ORS), Leon Jourolmon (ORS).
Ellis L. Nut, United States Department of Agriculture, Portland.
Mark L. Nison, Corps of Engineers, NPD, Portland.
Harold Nelson, Bureau of Reclamation, Boise, Idaho.

Mr. Kimball asked permission to review Idaho's position, particularly for the information of the advisory board, since this was the first general meeting with them. The main points of Idaho's position relative to coordination are as follows:
(1) That the pool critical year be used to determine Idaho Power's firm capability.
(2) That Idaho should be entitled to the generation on its own system.
(3) That Idaho should participate in the downstream benefits, which result from the project they are building.
(4) That winter energy be recognized as being more valuable than summer energy, particularly since capacity is necessary for the winter energy and additional capacity is not necessary for the summer energy.
(5) That the summer energy required by Idaho should be on a firm guaranteed basis.

Mr. Kimball felt that their position was justified by the analysis and interim reports of the FPC task force on the upstream-downstream situation.

Mr. Kimball stated that they have had no indication to date that BPA would accept the above principles. Time is short for them to make a coordination agreement in that they expect to start filling the Brownlee Reservoir on May 1, 1958. He stated that Idaho has contracts with Utah Power & Light, Washington Water Power, and Pacific Power & Light to dispose of their surplus. He further stated that these agreements are now firm. Idaho plans to build a line to the Mountain Sheep site where they will tie to a line that Washington Water Power is building south from Lewiston. Target date for energization of this line is November 1, 1958.

Mr. Kimball further stated that they proposed to operate in coordination as required under their license, but he stated that coordination could probably be achieved with other utilities than with BPA. He says they are studying this situation now and are not sure whether such arrangements could result in full coordination. However, regardless of these studies, they would still like a contract with BPA. Mr. Kimball further stated that he felt the summer energy that they require should be sold by BPA at a reasonable price and they would like BPA to submit a basis for the coordination. Mr. Kimball then asked Mr. Hogg to go on from there with the reasons for coordination. Mr. Hogg reviewed the reasons for coordination which basically are to keep cost of service to ultimate consumers as low as possible and to increase the firm capability of their system. He also reviewed the preliminary contract they had submitted to us in 1956.

Dr. Pearl said he wished to emphasize that there was no agreement as yet but before discussing coordination with Idaho, there were two items he wished to bring up. These were:
(1) Wheeling to Harney Electric Coop since Harney is in the BPA marketing area.
(2) Wheeling to the Bureau of Reclamation in southern Idaho to help firm up their power and supply additional power to preference customers in that area.

Mr. Kimball stated he did not have to make any studies to answer these questions:
(1) Idaho Power Co. will not wheel BPA power to Harney, nor
(2) Will they wheel to the Bureau of Reclamation in southern Idaho.

He stated the reason for his position was the result of the preference clauses in Federal Law. It would expose Idaho to loss of customers and of service territories.

Mr. Nelson of the Bureau of Reclamation pointed out that the Bureau would also benefit by firming up its level from 1934–35 to 1936–37 and asked if Idaho Power Co. would help accomplish this. Mr. Kimball stated he would defer answering that question but that they would certainly take it into consideration and would discuss it further with the Bureau.

Dr. Pearl then asked, supposing we cannot agree to a contract by May when the Brownlee reservoir starts filling, should we consider an interim agreement? Mr. Kimball stated that his company was not interested in an interim agreement unless it would conform to their long-term principles. On further questioning, he stated he would not oppose a 5-year review for taking into account changes in conditions. However, he would be opposed to a 5-year contract.

Mr. Morthland asked Mr. Kimball if the January 1957 draft his company submitted should be considered as a firm offer of a contract. Mr. Kimball said no, it just embodied principles. Mr. Morthland replied if it was to be considered a firm offer of a contract, we would have to reject the proposal. Mr. Morthland then went on and stated he felt the license eliminated any consideration of isolated operation but he recognized that coordination might possibly be achieved with utilities other than BPA. Then Mr. Morthland stated he would agree with some of the principles that Mr. Kimball outlined:

(1) That coordination would be based on the pool critical year.

(2) That Idaho should be entitled to generation on its own system.

(3) That BPA must reject any proposal for Idaho to participate in downstream benefits.

(4) That we cannot agree to consider summertime energy less valuable than wintertime energy but in our analysis we prefer to stay away from any value conception.

(5) We agree that summertime power necessary for the coordination should be on a firm basis.

Mr. McIntyre then presented some tables on the board, copies of which are attached.

Mr. Hogg disagreed with Mr. McIntyre's analysis. He stated that the way Idaho would operate isolated would result only in an increase in load-carrying capability of 70,000 kilowatts rather than the 246,000 kilowatts shown by Mr. McIntyre. The reason for this is that Brownlee could be operated in the summertime rather than storing water at that time. Mr. McIntyre agreed that if the comparisons were made from an isolated operation to a coordinated basis, this would be the result. However, assuming coordination is essential to fulfillment of the license stipulations, the comparisons would be as indicated.

Mr. Hogg further stated that the example given by Mr. McIntyre does not accomplish maximum load-carrying capability. To accomplish this, Idaho would have to be given much more summertime power in that they have a summer load of 1.16 times the winter load, while the average of BPA summer load is only about 95 percent of the winter load. The statement that maximum load-carrying capability is not accomplished because of the seasonal load variations on the Idaho system is not subscribed to by Mr. McIntyre.

Mr. Gale suggested that they study the figures and confer with Mr. McIntyre in regard to them and then contact the Administrator.

COORDINATION WITH IDAHO POWER CO., EQUAL ENERGY EXCHANGE BASIS

Idaho Power Co. under coordinated operation, 1936–37 streamflows; 1964–65 installation; millions of kilowatt-hours

	Storage refill season [1]	Storage release season [2]	Annual
System generation	2,300	4,290	6,590
Net interchange from BPA	652	−652	0
Firm load-carrying capability	2,952	3,638	6,590
Estimated loads [3]	2,240	2,650	4,890
Surplus:			
Millions of kilowatt-hours	712	988	1,700
Thousands of average kilowatts	194	194	194

[1] Apr. 16 through Sept. 15.
[2] Sept. 15 through Apr. 15.
[3] Own system load, does not include any recent sales or exchange contracts with other utilities.

Idaho Power Co. under coordinated operation 1934–35 streamflows—1964–65 installation—millions of kilowatt-hours

	Storage refill season [1]	Storage release season [2]	Annual
System generation	1,510	4,440	5,950
Net interchange from BPA	900	−260	[4] 640
Firm load-carrying capability	2,410	4,180	6,590
Estimated loads [3]	1,840	3,050	4,890
Surplus:			
Millions of kilowatt-hours	570	1,130	1,700
Thousands of average kilowatts	194	194	194

[1] May through August.
[2] September through April.
[3] Own system load, does not include any recent sales or exchange contracts with other utilities.
[4] Carryover interchange due BPA.

Annual kilowatt-hour comparisons:

1. Idaho gains, net after coordination and interchange—700 million firm kilowatt-hours
2. BPA gain, net after coordination and interchange—zero kilowatt-hour gross before interseasonal interchange for coordination—652 million firm kilowatt-hour winter energy

Increase in salable firm capability:

1. Idaho $\frac{900 \text{ million}}{730 \times 5} = 246{,}000$ average kilowatts [1]
2. BPA $\frac{652 \text{ million}}{730 \times 7} = 127{,}000$ average kilowatts [2]
   46,000 average kilowatts downstream
   173,000

[1] 5-month season.
[2] 7-month season.

CONFERENCE AND TELEPHONE CALL REPORT

JANUARY 21, 1958.

From: Hydraulic operations officer.
Copy to: Mr. Pearl.

The following data given over the telephone by Mr. Hogg of the Idaho Power Co. were presented for staff discussion in Dr. Pearl's office Thursday, January 16. These data show the benefits of coordination as computed by the Idaho Power Co. under 1936–37 streamflow conditions and for various levels of resource development, as follows:

System	Equal exchange	Idaho gain [1]	Bonneville Power Administration gain [2]
	Kilowatt-hours	*Kilowatts*	*Kilowatts*
Present system	52,000,000	25,000	10,000
Plus U. S. Bureau of Reclamation existing plants	−13,000,000	34,000	−2,500
Plus Brownlee	310,000,000	62,000	[3] 107,000
Plus Oxbow	439,000,000	71,000	[3] 132,000
Plus Hells Canyon	652,000,000	80,000	[3] 173,000

[1] Idaho gain is 1936–37 annual average increase above 1934–35 capabilities.
[2] Bonneville Power Administration gain is increase over 1936–37 storage release period.
[3] Includes downstream benefit of 46,000 kilovolt amperes.

Mr. Hogg pointed out the successive gains of both Idaho and BPA as being significant particularly the last two stages of development. Mr. Hogg also stated that the Idaho Power Co. believes there should be a differentiation between summer and winter power and that the company is not getting any capacity benefits, only energy. He asked if the Federal Government was getting some capacity benefit from the return of energy from Idaho. He was told that the same conditions apply on the Federal system as on Idaho's system where excess capacity is available on both systems. When informed that BPA's position remains the same as presented at the previous meeting, Mr. Hogg commented that it didn't appear BPA and Idaho could get together.

Dr. Pearl presented a new proposal given to him over the telephone by Mr. Kimball of Idaho Power Co. Mr. Kimball first stated that full coordinatoin of their plants could be accomplished with other utilities but coordination with BPA would be preferable. Mr. Kimball's proposal is as follows: (1) Idaho would purchase their power requirements during May, June, and July on BPA's proposed S–1 rate; (2) power requirements during April and August would be purchased from BPA at 2.5 mills when and if BPA had it available. If BPA did not have power available at this time, arrangements could be made with the Utah Power & Light Co.; (3) Idaho would let them have all the generation on their system for use or for sale to other utilities. The staff then discussed the preference position Idaho should assume for availability of BPA secondary ahead of or behind the industrial customers. No conclusion was reached. The staff was asked to prepare the requirements of the Idaho Power Co. and available surplus on the BPA system during the summer months for determination of the application of Idaho's proposal.

CONFERENCE AND TELEPHONE CALL REPORT

JANUARY 24, 1958.

From: Miller Evans.
Copies to: Dr. Pearl.

Meeting on January 24, 1958, with Idaho Power Co.

For Idaho Power Co.: John Kimball, R. E. Gale, Robert A. Hogg.

For BPA: Dr. Wm. A. Pearl, J. Lane Morthland, E. C. Starr, E. D. Ostrander, Leon Jourolmon (GRS), Miller Evans, H. H. McIntyre, C. E. Mohler.

The following discussions took place during the meeting with representatives of the Idaho Power Co. regarding the coordination of their system with that of the Administration:

Mr. Kimball reviewed the situation, pointing out that perhaps a statement of principles such as those involving downstream benefits, priority of filling reservoirs, and relative values of summertime and wintertime energy might be appropriate. He is primarily interested in buying summertime energy to hold and fill the new Idaho reservoirs.

Dr. Pearl went over briefly his telephone conversation with Mr. Kimball, as outlined on BPA form 15 dated January 20, 1958. This discussion primarily concerned some questions Mr. Kimball had raised, which will be brought out later in these minutes.

Mr. Kimball wished to add one point at this time, namely, that his company was not in a position to sign any agreement today but wanted information on points mentioned by Dr. Pearl as outlined in his form 15.

Dr. Pearl began with a discussion of the S–1 rate under which it is possible to sell secondary energy during May, June, and July, and as secondary energy it may be shut off at any time. He also indicated the difference between the sale and exchange of power and their associated priorities. He raised the question as to whether coordination meant the sale or exchange of power; it was generally agreed that coordination could probably be accomplished by either means.

Mr. Hogg pointed out that the S–1 type of energy was not in the class needed for filling reservoirs; he wanted this S–1 energy at the rate outlined in our schedule but not with the restrictions included therein.

Mr. Gale indicated that exchange of energy during May, June, and July, between the two utilities would be desirable on a multiplier basis at some ratio other than 1 for 1, but that energy for the remaining 9 months—August through April could be exchanged on a 1 for 1 basis.

Mr. Kimball asked if the Administration had any suggestions on how this could be accomplished. Mr. Morthland stated the staff feels that S–1 power would probably be available 19 out of 20 years, and that possibly Idaho could secure

assurance from other utilities for power which could be coupled with S–1 power, thus insuring delivery even in this hypothetical 20th year.

Mr. Kimball explained they had not made such an assumption but that it had definite possibilities.

Mr. Morthland brought out that the Administration does not take the position that coordination, in whole or in part, must necessarily be with BPA. He assumed that Idaho must present a plan to the FPC for coordiation, whether with this Administration or other utilities, which indicated the terms of Idaho's license as being met.

Mr. Evans read from the S–1 rate schedule, pointing out the terms and conditions of this rate with particular emphasis on its limitation of being secondary power and carrying a very low priority.

Mr. Morthland mentioned that we had not definitely decided to go ahead with this S–1 rate, but if we did it might be possible to make a contract on the assumption that the rate would be approved. The Administration had not planned on filing this schedule until 1959. However, if agreement is reached involving the S–1 rate, we would be willing to file it at any time.

Mr. Kimball informed the group that the first unit of Brownlee would be on the line soon after July 1, 1958.

Mr. Hogg felt a contract should provide for an exchange of energy from August 1 to May 1 on a 1-for-1 basis. To accomplish complete coordination it might be necessary to have this contract plus a second one for the purchase of S–1 energy by his company. He suggested the inclusion of this May, June and July energy in an exchange agreement at less than a 1-for-1 ratio.

Mr. Morthland had assumed that Idaho wanted to avoid an exchange in that they would like to retain all the benefits of their own generation.

Mr. Hogg referred to the original terminology; namely, that operating energy was that energy exchanged during the winter season or, as integrated energy, was that resulting from the drawdown of Brownlee Reservoir. There was some general discussion at this point on the overall exchange, relative values of summer and wintertime energy, and other points of a similar relation.

Mr. Kimball believes that all discussions up to now should, in effect, be forgotten and that we should look for a new means of coordination, even though Idaho would prefer to return to their original proposal. He wanted to talk at this time about an exchange of energy from August 1 to May 1 and the purchases of energy from May 1 to August 1 at the S–1 rate. Mr. Evans gave a copy of our S–1 schedule to the Idaho people with the admonition that we wanted them to fully understand the terms and conditions of this rate.

At this point Mr. Kimball requested that he be allowed some time for a meeting with his staff. This occurred in another room and took only a short interval of time.

Mr. Kimball, upon his return, said that he and his people felt there was great merit in the plan discussed for the exchange of energy from August 1 to May 1, and the purchase of energy from May 1 to August 1 at the S–1 rate. However, he wished to have his people closely examine the water cycle of the summertime months and would appreciate an opportunity to review Mr. McIntyre's study of this summertime energy. Idaho will need about one week to make this review and during this period would like the Administration to consider a 100 percent exchange agreement, including an exchange ratio higher than 1 to 1 for summertime energy, between the utilities in order to avoid the minimum bill exposure to Idaho in a wet year.

Dr. Pearl stated that Mr. Starr had tentatively proposed a 14 to 10 exchange on the summertime energy. Mr. Hogg again suggested the 25 to 10 ratio for this type of energy, which is the same as previously mentioned by him.

Mr. Kimball mentioned that perhaps it would be possible to have a combination exchange and purchase of the summertime energy. He and his people would like the opportunity to make an extensive study of the S–1 rate for the May, June, and July energy, with an even exchange of energy for the balance of the year.

Mr. Evans told the group there appeared to be general agreement on the even exchange of energy during the 9-month interval from August 1 to May 1; therefore, both Idaho and BPA should be able to concentrate on a solution to the summertime energy problem.

The meeting terminated at this point, with the Idaho men leaving with Mr. McIntyre to examine the Administration's water cycle studies previously mentioned. After the review has been completed by the Idaho Power Co., which Mr. Kimball indicated previously would take approximately one week, he will call Dr. Pearl and arrange the next meeting.

CONFERENCE AND TELEPHONE CALL REPORT

FEBRUARY 13, 1958.

To: Office of the Administrator.
From: Bernard Goldhammer.

Meeting with Idaho Power Co. on February 10, 1958:
Present: For Idaho Power Co.: John Kimball, Ralph Gale.
For BPA: Dr. Pearl, J. Lane Morthland, E. C. Starr, E. D. Ostrander, Miller Evans, B. Goldhammer, L. Jorolmon.
Part of time: H. McIntyre, C. E. Mohler.

Idaho Power Co. suggested for the time being to use figures for 2 dams instead of 3 dams in our discussion. However, they stated that they intended to go ahead and construct the three dams. As a result of the demands for power in the west group area, they stated that they may start construction of the third dam earlier than anticipated. However, most of their present studies have been made on the basis of the two dams.

Dr. Pearl stated there were 3 proposals that it appeared BPA could accept for coordination of the 2 systems. They are:

(1) A 1-for-1 exchange. For each kilowatt-hour BPA provided Idaho during the summer months, Idaho would provide 1 kilowatt-hour to BPA during the winter months.

(2) A 1-for-1 exchange August through April and a direct sale of power during May, June, and July at 2½ mills per kilowatt-hour. This sale of summer power would not be on a firm basis and Idaho would be low man on the totem pole.

(3) A 1-for-1 exchange August through April and Idaho would purchase the power they need from any available source in May, June, and July.

The additional power Idaho would need to bring 1934–35 conditions up to 1936–37 under the first proposal would be guaranteed by BPA, but such additional sales would be settled in the exchange account rather than a 1-for-1 exchange.

Idaho Power Co. raised objections to these proposals on the basis that they felt that too large a proportion of the coordination benefits went to the Federal system.

Idaho Power Co. then presented us with their analysis of the cost of coordination. They stated that on an isolated basis they could generate an annual average of 658 megawatts. Their firm capability would be 520 and their secondary, 138 megawatts. On the basis of a 1-for-1 exchange with BPA, they would generate an annual average of 669 megawatts and their firm capability would be 590 megawatts. The increased firm would be an annual average of 70 megawatts. Idaho estimated that the 70 megawatts would cost them an average of 3.4 mills per kilowatt-hour.

Idaho estimated that with coordination with Utah, whereby they would purchase the lowest cost steam-generated power available at a rate of incremental costs plus one-fourth mill per kilowatt-hour, Idaho would have an annual average generation of 699 megawatts, a firm of 655 megawatts. The resulting increase in firm over isolated operation would be 135 megawatts at an estimated incremental cost of 3.34 mills per kilowatt-hour for this additional firm. Mr. Kimball and Mr. Gale did not have the backup data on their cost figures, so Mr. McIntyre will call Mr. Hogg to get this information.

Mr. Kimball stated that Utah could not provide all the energy that was necessary for complete coordination so Idaho would have to draw down their reservoirs when Utah could not carry the load. Mr. Kimball stated that in his opinion Idaho should receive, in any arrangements with BPA, 135 megawatts of additional prime instead of the 70 resulting from a 1-for-1 exchange. He based his suggestion of 135 megawatts on the amount they estimate they could get on coordination with Utah Power & Light.

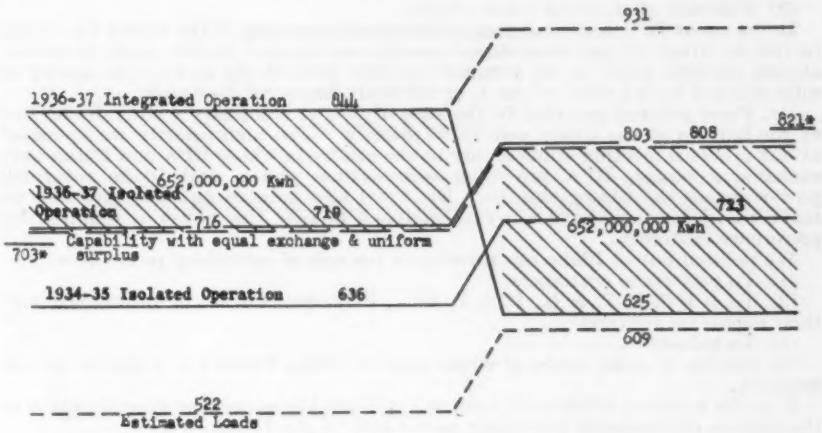
Dr. Pearl mentioned that we were studying another proposal which might provide a lower rate or higher exchange ratio for the water that is necessary to fill the Brownlee Reservoir during the summer months but that our studies on this were not as yet completed.

In the discussion, Mr. Morthland asked Mr. Kimball if Idaho would operate coordinated with the Northwest power pool regardless of how they would secure the necessary power to keep the reservoir full. Mr. Kimball said that they would have to look at it in that in some years Utah cannot provide enough steam to keep the reservoir full. Mr. Kimball stated that on the basis of present conditions Idaho could get 125 megawatts in the summer from Utah.

Mr. Kimball stated he would call Dr. Pearl next week relative to another meeting.

IDAHO POWER COMPANY-BPA COORDINATION
Idaho Power Company Capability
1964-65 Loads and Resources
Megawatts

(Brownlee, Oxbow & Hells Canyon)



* Equal exchange capability if surplus is placed on load shape.

CONFERENCE AND TELEPHONE CALL REPORT

FEBRUARY 21, 1958.

To: Office of the Administrator.
From: Bernard Goldhammer.

Meeting on February 19, 1958, with Idaho Power Co.

Present:

For Idaho Power Co.: John Kimball, Ralph Gale, Richard Moore, Robt. Hogg.

For BPA: Dr. Pearl, J. Lane Morthland, Harvey Sutter, Miller Evans, E. D Ostrander, E. C. Starr, Raymond Coulter, L. Jourolmon, B. Goldhammer.

The Idaho Power Co. presented a statement as to:

(1) Handling of power August 1 through April 30.

(2) Summertime energy.

(3) Purchase of steam or other energy in case of insufficient summertime energy that Idaho would require.

Statements read as follows:

(1) Energy exchange during period August 1 through April 30:

During the period August 1 through April 30, operating energy will be exchanged between the BPA and Idaho Power Co. systems on a 1-for-1 basis. BPA will furnish to Idaho Power Co. sufficient energy to carry its load corresponding to its firm load-carrying capability as determined during the critical period of the Northwest power pool area (which is presently September 15 through April 15, 1936–37). When generation capability on the Idaho Power Co. system exceeds its load-carrying requirement, energy will be supplied to BPA system and storage releases shall be regulated so as to produce the maximum firm power and usable energy for the Northwest power pool area. Each year at the end of the period (August through April), Idaho Power Co. will pay BPA 2.5 mills per kilowatt-hour for all kilowatt-hours received from BPA in excess of the number of kilowatt-hours furnished to BPA during the period. In the event Idaho Power Co. has furnished BPA an excess of energy during any period, the excess energy may be carried forward to the next year.

(2) Summer energy for filling and holding Brownlee Reservoir:

During May, June, and July, BPA will furnish Idaho Power Co. energy for load-carrying purposes, during the Brownlee Reservoir refill period, in the amount of 320 million kilowatt-hours at 1 mill per kilowatt-hour. This energy is to have a priority next to firm load requirements on the BPA system. BPA will also furnish additional energy, for load-carrying purposes, to enable Idaho Power Co. to carry its load during the Brownlee Reservoir holding period at 2.5 mills per kilowatt-hour. This energy is also to have a priority next to firm load requirements on the BPA system up to August 1 of each year.

(3) Purchase of steam or other energy:

In the event BPA could not supply the energy required, Idaho Power Co. would be free to either (1) purchase steam or other energy and receive credit in the exchange account equal to the remainder of the ratio of the cost of the energy in mills divided by 2.5 mills minus 1, or (2) draft Brownlee Reservoir.

Dr. Pearl pointed out that in the case of sale of secondary energy Idaho was at the bottom of the totem pole as to priority. The high priority we discussed at our previous meeting applied only to the condition where BPA and Idaho were exchanging power, BPA providing summertime power, and Idaho returning power during the winter months. Dr. Pearl also pointed out that any sale we make to Idaho must have a 5-year pullback in case this power is required for preference customers.

We pointed out to Idaho our priority in the sale of secondary power is—

(1) To preference customers.

(2) To WWP, P. P. & L., P. S. P. & L., PGE, and Calpac in accordance with their long-term contracts.

(3) To industries.

(4) Service to other loads, of which sales to Idaho Power Co. would be in this category.

If we file a rate at a low level, such as 1 mill per kilowatt-hour, it would come at the bottom of the group below any power sold at our H rate.

We discussed the question of the amount of power necessary to fill the reservoir, Idaho Power Co. suggesting that it would be a fixed amount each year, and BPA suggesting that it be examined at the end of each period to determine how much power was necessary for reservoir filling.

We discussed the requirements on a two-dam plan with 1962–63 loads, assuming 1936–37 water conditions and regulated for uniform surplus on the Idaho system. On a sale, we would sell to Idaho 552 million kilowatt-hours in the summer months and they would exchange with us 120 million kilowatt-hours from April through August. In addition to the 46 megawatts of downstream benefit, BPA would get 24 megawatts of additional load-carrying capability. The uniform surplus to Idaho would be 125 megawatts.

We also discussed an exchange whereby reservoir filling power would be exchanged 2½:1, load-carrying summertime power would be exchanged 1:1, and August through April would be on a 1:1 exchange. BPA would provide 313 million kilowatt-hours to fill the reservoir on a 2½:1 basis. We would also supply in a critical year 128 million kilowatt-hours to carry the load on a 1:1 exchange basis, and in the period April through September we would supply 77 million kilowatt-hours to carry the load on a 1:1 basis. In addition to the 46 megawatts downstream, BPA would increase its load-carrying capability by 65 megawatts. Surplus on the Idaho system would be 83 megawatts.

On a straight 1-for-1 exchange, with the 2 dams, BPA would provide Idaho 441 million kilowatt-hours. Bonneville would gain 87 megawatts in load-carrying capability in addition to the 46 downstream. Idaho's surplus would be 62 megawatts.

Idaho suggested that the other utilities be brought into the discussions relative to the coordination. They stated they would buy their summertime energy from the cheapest source, and Mr. Gale felt that 75 to 80 percent of the years they could buy summer secondary from other utilities at less than 2½ mills per kilowatt-hour.

Idaho Power Co. suggested they make some studies and meet with us again in about 10 days. The studies they will make are as follows:

(1) Purchase reservoir filling energy at 1 mill per kilowatt-hour during May, June, and July. Purchase load-carrying power for May, June, and July at 2½ mills per kilowatt-hour. Supply any deficiency in July by BPA paying excess steam costs and a 1-for-1 exchange August 1 through April 30.

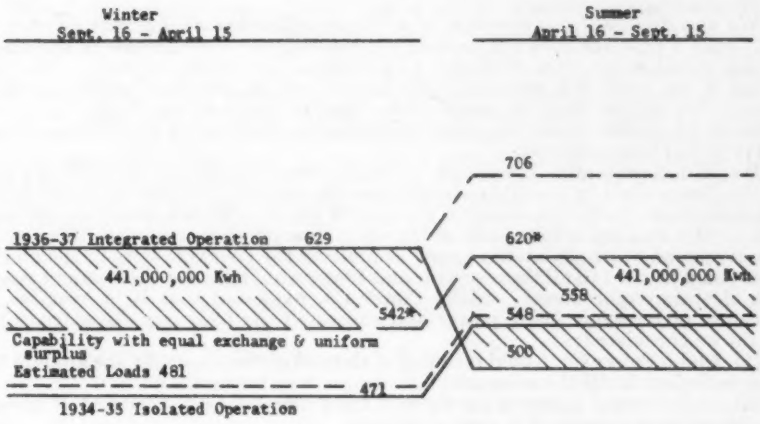
(2) The same as above except August 1 to September 15 Idaho would buy power from BPA at 2½ mills per kilowatt-hour and BPA would either pay excess costs of other power or permit drafting their Brownlee reservoir in case the secondary was not available. The period September 15 to April 30 would be 1-for-1.

(3) Exchange summertime power on the basis of 2½ for 1 for reservoir filling energy and 1 for 1 for load-carrying energy. Exchange power from August 1 through April 30 on a 1-for-1 basis.

(4) They may also study other combinations.

IDAHO POWER COMPANY-BPA COORDINATION
Idaho Power Company Capability
1962-63 Loads and Resources
Megawatts

(Brownlee & Oxbow)



* Average capability on an isolated basis with 1936-37 streamflows would be the same.

CONFERENCE AND TELEPHONE CALL REPORT

MARCH 7, 1958.

To: Office of the Administrator.
From: Bernard Goldhammer.

Meeting with Idaho Power Co. on March 5, 1958:
Present:
For Idaho Power Co.: Ralph Gale, John Kimball.
For BPA: Dr. Pearl, J. Lane Morthland, E. D. Ostrander, Miller Evans, E. C. Star, Harvey Sutter, Raymond Coulter, L. Jourolmon, B. Goldhammer.

Mr. Kimball stated that of the four methods discussed at our previous meeting, Idaho Power Co. has not yet concluded which they would prefer. The four methods relate to the question of buying and exchanging reservoir filling power and load-carrying power during the months of May, June, and July. Mr. Kimball stated that probably their preference would be to purchase, since by that route they would have the highest load-carrying capability.

We discussed the question of term of agreement and there was some concurrence by both parties that about a 10-year agreement would be adequate. Conditions would change and within 10 years a new contract could be made.

We discussed the question of reservoir filling power until Oxbow comes on the line in October 1961. With only Brownlee about 222 million kilowatt-hours would be necessary for reservoir filling. Mr. Gale stated that this amount probably would be needed each year in that their license requires that the reservoir be down to 500 million acre-feet for flood-control purposes by March 1. Therefore, from a practical standpoint, the reservoir should be drawn down each year.

Mr. Kimball asked in case Idaho purchased reservoir filling power and exchange to carry their load during May, June, and July, what their priority would be. The BPA staff stated the priority would be the same as exists under their present exchange contract. In the exchange agreement, Idaho comes after preference customers, private utilities who signed a 20-year contract, and existing industrial interruptible loads. Idaho would have priority over any sales outside the region and any expansion of interruptible industrial loads beyond that stated in exhibit B of their exchange contract.

We also discussed the question of a 5-year pullback on a sale but pointed out that such a pullback does not have much meaning in their purchase of secondary. Idaho would come after deliveries to preference customers anyway. Mr. Gale asked if we could tell approximately how much summertime power we would have. We replied that we could give a fair estimate of the loads, but it was difficult to predict what resources would be available until the February snow surveys had been analyzed.

We had considerable discussion as to the meaning of reservoir filling power. Idaho Power Co. felt that they should have the right to schedule up to 320 million kilowatt-hours (with two dams) if they could use it. We felt that they could not sell surplus to other utilities and at the same time purchase reservoir filling power. We discussed other alternatives such as limiting the reservoir sales to the amount that could be used to fill the reservoir and Idaho would pay for this amount regardless of their requirements. Idaho Power Co. requested that BPA examine this question of reservoir filling power and suggested the following alternatives that might be considered:

(1) Idaho Power Co. would be billed at the end of the season for the amount that was necessary to fill the reservoir.

(2) Idaho would agree to purchase a fixed amount each year and Bonneville would sell that amount if it were available.

(3) Idaho would be permitted to purchase up to the equivalent of a million acre-feet through the plants that they own downstream. In the case of Brownlee alone, it would be 222 million kilowatt-hours. In the case of Brownlee and Oxbow, it would be about 320 million kilowatt-hours; and in the case of the three dams, it would be over 400 million kilowatt-hours.

Our discussion relative to the period August 1 through April 30 centered around the question of the load-carrying capability of the Idaho plants. On the basis of a 1-for-1 exchange of the needs between August 1 and April 30, the load-carrying capability of the Idaho plants would be 24 megawatts less than on the basis of September 15 through April 15. BPA pointed out that there was a considerable risk to purchasing secondary power in this period in that it would not be available in many years. In contrast, during the summer months the risk for the next 10 years appeared to be very small. In order to effectuate a guaranteed amount of power to maintain the reservoir during this period, a firm exchange rather than a sale would be necessary.

Idaho Power Co. suggested that the exchange account which would normally be in BPA's favor be settled out at some figure of $500,000 or less so their books would not show a large current debt to BPA. BPA replied that this could be easily handled and that a $500,000 balance would probably be too large a figure. The exchange account would build up when water conditions were below that of 1936–37. BPA's rough estimate indicates that on the basis of 1934–35 conditions, Idaho Power Co. would owe Bonneville approximately a million dollars in that year for power purchased. However, in that year BPA would have the secondary available so that the load-carrying capability up to the pool level could be guaranteed.

Idaho Power Co. submitted three statements relative to a proposed coordination agreement. BPA agreed to further consider their statements. We expect to give Idaho Power Co. some more definite information as to what BPA might regard as the terms of an agreement after discussions within the Department in Washington next week.

It was suggested that due to the pressures for the staff during the next 2 weeks, our next meeting be held the week of March 24.

The statements that Idaho Power Co. presented are as follows:

1. Summer energy for filling and holding Brownlee Reservoir and Oxbow

During May, June, and July, BPA will furnish Idaho Power Co. energy for load-carrying purposes, during the Brownlee Reservoir refill period, up to 320 million kilowatt-hours, as scheduled by Idaho Power Co., at 1 mill per kilowatt-hour. This energy is to be supplied subject to the "5-year drawback provisions" and have a priority next to present "industrial interruptible contract" load requirements on the BPA system. BPA will furnish additional energy also for load-carrying purposes, to enable Idaho Power Co. to carry its load corresponding to its firm load-carrying capability during the Brownlee Reservoir holding period (May, June, and July) at 2.5 mills per kilowatt-hour and subject to the same withdrawal and priority limitations as the above reservoir filling energy.

2. *Energy exchange during period August 1 through April 30*

During the period August 1 through April 30, operating energy will be exchanged between the BPA and Idaho Power Co. systems on a 1-for-1 basis. BPA will furnish to Idaho Power Co. sufficient energy to carry its load corresponding to its firm load-carrying capability as determined during the critical period of the Northwest Power Pool area (which at the present time is generally considered to be a period approximately September 15 through April 15 during the years 1936–37). When generation capability on the Idaho Power Co. system exceeds its load-carrying requirement, energy will be supplied to BPA system and storage releases shall be regulated so as to produce the maximum firm power and usable energy first for firm load and commitments of Idaho Power Co. and second for the Northwest Power Pool area. Each year at the end of the period (August through April), Idaho Power Co. will pay BPA 2.5 mills per kilowatt-hour for all kilowatt-hours received from BPA in excess of the number of kilowatt-hours furnished to BPA during the period. In the event Idaho Power Co. has furnished BPA an excess of energy during any period, the excess energy may be carried forward to the next year.

3. *Purchase of steam or other energy*

In the event BPA could not supply the energy required, Idaho Power Co. would be free to either (1) purchase steam or other energy and receive credit in the exchange account equal to the remainder of the ratio of the cost of the energy in mills divided by 2.5 mills minus 1, or (2) draft Brownlee Reservoir.

LETTER OF ADMINISTRATOR WILLIAM A. PEARL, OF BONNEVILLE POWER ADMINISTRATION, TO IDAHO POWER CO., DATED APRIL 1, 1958

APRIL 1, 1958.

Mr. JOHN T. KIMBALL,
Vice President and General Manager, Idaho Power Co.,
Boise, Idaho.

DEAR MR. KIMBALL: At our last meeting on March 5, 1958, we informed you that we would discuss within the Department of the Interior, during our trip to Washington, D. C., the coordination of Idaho Power Co.'s system with the Columbia River power system.

While in Washington, we discussed the various means of coordination that we have previously discussed with you. Two alternatives were considered acceptable to the Department of the Interior; those are:

(1) Equal exchange of energy with BPA so that your summertime needs as described below for reservoir filling and load carrying would be assured, or

(2) Equal exchange of energy with BPA from August 1 through April 30 and purchase by your company during May, June, and July of energy you need for reservoir filling and to carry your load. If such purchases are made from BPA, these would be at our existing H rate (2½ mills per kilowatt-hour).

Over the past couple of months, we have discussed with you a possible new rate for reservoir filling. We are not prepared to file such a rate at the present time. Our studies, however, will continue and if such a rate is filed and approved in the future, it will be available to any utility meeting the requirements ultimately established in the rate.

The foregoing alternatives are based on the subsequently described determination of the company's loads and resources for the year in which streamflow conditions would be critical for the Columbia River power system.

Alternative 1 (*equal exchange of energy on annual basis*)

The company would be assured as a firm entitlement of annual kilowatt-hours, equal to its energy resources for the critical streamflow year for the Columbia River power system. The firm entitlement would be distributed by months so as to provide the company in the early years of the contract a surplus over its own loads which would be the same in average kilowatts in all months, or in accordance with a mutually acceptable shaped surplus. The firm entitlement would therefore be established by an exchange of energy on a 1-for-1 ratio in the critical year.

Alternative 2 (*May, June, July purchase and equal exchange of energy August 1 through April 30*)

The company would be assured a firm entitlement of kilowatt-hours, over the season August 1 through April 30 equal to its energy

resources for the same period during the critical streamflow year for the Columbia River power system. The firm entitlement would be distributed by months so as to provide the company, in the early years of the contract, a surplus over its own loads which would be the same in average kilowatts in all months of the season, or in accordance with a mutually acceptable shaped surplus. Over the period May 1 through July 31 the company would have the privilege of purchasing from BPA, when available, any energy necessary to bring its energy resources up to the firm entitlement. Over the remainder of the critical streamflow year, therefore, energy would be exchanged between BPA and the company on a 1-for-1 ratio.

Under either alternative, BPA would provide the company with sufficient energy to bring its energy resource up to its firm entitlement at any time when the company's energy resource is below that level. The company would be obligated to return all such energy to BPA on a 1-for-1 ratio from its first energy resource in excess of firm entitlement. Energy received during the season May 1 through July 31 under alternative 2 would be purchased by the company rather than returned. If, over any year ending June 30, the company has generated insufficient energy above its firm entitlement to return the energy provided by BPA under the agreement, except for summer energy purchased under alternative 2, then the company shall settle its obligation to return such energy by paying BPA for such energy at the BPA H rate.

In addition to energy exchanges to maintain the company's firm entitlement, the company and BPA would exchange energy, to the extent permitted by the loads and resources of each, for the purpose of increasing the usability of the secondary energy resources of each. This additional exchange would be recorded in the same account as energy exchanged for maintenance of the firm entitlement. The account would be settled as of June 30 each year by payment by the company if the balance is in favor of BPA or by carryover if the balance is in favor of the company.

Each year prior to April 1, BPA and the company would establish rules for coordinated operation of Brownlee Reservoir through the subsequent storage refill and release seasons. These rules would be made subject to any requirements imposed by the FPC license for Brownlee Reservoir.

Initially and thereafter, prior to April 1 of each year, the company would compute and submit to BPA a summary of its forecasted monthly energy loads and resources for the year of critical streamflow conditions for the Columbia River power system. The resources in this summary would be exclusive of capability of the Brownlee plant and all other plants of the company downstream, and the loads would be exclusive of the requirements of any other utility which the company may be obligated to supply. Upon receipt of this summary, BPA would submit to the company monthly energy capability under critical streamflow conditions of the company's plants at Brownlee and downstream therefrom under operation in coordination with the Columbia River power system. These loads and resources would then be tabulated to determine the company's firm entitlement for the following operating year of July 1 through June 30.

We will be very happy to discuss with you either of these alternatives and contract terms at your convenience.

Sincerely yours,

WM. A. PEARL, *Administrator.*

25098—58——7

STUDY OF BENEFITS OF INTEGRATION BY BONNEVILLE POWER ADMINISTRATION AND BUREAU OF RECLAMATION

OFFICE MEMORANDUM

UNITED STATES GOVERNMENT,
BONNEVILLE POWER ADMINISTRATION,
January 23, 1958.

To: Director, Division of Operations and Maintenance.
From: Hydraulic Operations Officer.
Subject: Integration with the Bureau of Reclamation Power System in Idaho.

Pursuant to our discussions with the Administrator on December 6 we met with Mr. Curtis Brown of the region 1 office of the Bureau of Reclamation on December 10, 1957, to exchange information pertinent to the integration of our two respective power systems. From the data furnished by Mr. Brown then and subsequently, we have reached the tentative conclusion that the integration would permit the Bureau to sell an additional 13,000 kilowatts of firm energy.

Because of the relative sizes of the two systems integration is defined by examination of first the Bureau's system, which is the smaller. This determines the need for power exchanges the availability of which can be verified by examination of our system. This process is shown in part on table 1 attached. The firm load which is shown represents requirements for pumping power on the Bureau projects plus contractual commitments to existing customers. Additional secondary loads, represented by contracts with the two private utilities in Idaho, were also studied but were assumed on table 1 not to interfere with firm integration benefits. The 1936–37 Bureau generation is the average capability under 1936–37 streamflows of the Boise, Minidoka, and Palisades projects. This capability compared with the total load results in average surplus of 20,000 kilowatts for the year and 13,000 kilowatts for the season September 16 through April 15, which is our critical storage release season.

The 13,000-kilowatt surplus is not presently salable as firm power for three reasons: (1) Some other years, particularly 1934–35, have a lesser surplus; (2) the surplus is poorly distributed through the year, being too large in some months and too small in others; (3) the energy surplus is accompanied by a severe peak deficiency. In fact under critical local streamflows, the Bureau must purchase peaking power to meet their present commitments.

Integration with the Bonneville Power Administration would remove all three deterrents to the sale of the surplus. Availability of our secondary energy will firm up the supply in years of lesser surplus than 1936–37, such as 1934–35. Our storage is available to reshape the monthly surplus to load, and we will have a peak surplus to meet the Bureau's deficiency in peaking. This reshaping is shown by the last column on table 1 where in the last half of September (1936–37) a

maximum of 26,000 average kilowatts flow from the Bureau to BPA. The net interchange for the storage release season however is zero, as shown. Excess of generation over firm resource in the storage refill season is not shown as interchange under the assumption that this excess will supply the existing secondary load of the Bureau. The possibility remains to be explored of increasing these secondary sales through integration of the two systems.

The other two functions of integration are not shown on table 1 but they have been studied. The maximum monthly interchange of average energy from BPA to the Bureau was found to be 41,000 kilowatts in September of 1934. This is an amount which we could easily supply from our seasonal resources. The maximum interchange of peaking power from BPA to the Bureau for firm load was found to be about 84,000 kilowatts in August 1931 and August 1933. It also is an amount which we could easily supply. This energy component of the peak exchange will be liquidated within the month. This exchange is on the assumption that Palisades powerplant will not be permitted to operate at less than 70 percent plant factor. Operation was also studied at 50 percent plant factor and also with unlimited peaking. Consideration of the fishery resource will influence the actual selection of a plant factor.

In summary, benefits to the Federal Government from integration of the two systems would be as follows:

1. The Bureau could supply an additional 13,000 kilowatts of firm energy load.
2. Increased sales by BPA could be made from the existing secondary energy supply to the Bureau during years other than 1936–37.
3. A liability which has been incurred by the Bureau for purchase of peaking power in critical hydro periods would be removed.
4. Certain energy resources of the Bureau which are presently unusable in load would be made salable through reshaping the surplus and providing peak as required.

HENDERSON M. MCINTYRE,
Hydraulic Operations Officer.

TABLE 1.—*Integration with Bureau of Reclamation*

[Bureau of Reclamation loads and resources: 1936-37 streamflows—megawatts]

Month	Firm load	Average generation	Surplus	Shaped surplus	Firm resources	Interchange from BPA
July	115	156	41	35	150	[1] 0
August	115	156	41	35	150	[1] 0
Sept. 1–15	93	147	54	28	121	[1] 0
16–30	93	147	54	28	121	−26
October	50	61	11	15	65	4
November	34	42	8	11	45	3
December	36	44	8	11	47	3
January	34	45	11	11	45	0
February	36	44	8	11	47	3
March	36	44	8	11	47	3
Apr. 1–15	44	61	17	13	57	−4
16–30	44	61	17	13	57	[1] 0
May	92	156	64	28	120	[1] 0
June	107	150	43	32	139	[1] 0
Annual average	66	92	26	20	86	0
Storage release						
Season average	42	55	13	13	55	0

[1] Excess of generation not shown as interchange as it will supply existing secondary loads of the Bureau.

EXHIBIT I

Correspondence Between Senator Frank Church and Bonneville Power Administration in Regard to Coordination Agreement

United States Senate,
September 18, 1957.

Dr. William A. Pearl,
Administrator, Bonneville Power Administration,
Portland, Oreg.

Dear Dr. Pearl: There has come to my attention the fact that the Bonneville Power Administration is negotiating with the Idaho Power Co. for interchange and exchange of power at the time the Brownlee Dam goes into production.

I would appreciate being advised of the status of the negotiations and the proposals of each of the parties presently being considered by the other party. I would also appreciate being advised as to the review procedures that exist with reference to this type of negotiation—that is, does the Interior Department have any responsibility for the carrying on of negotiations or for approval of the proposals agreed to by the Bonneville Power Administration and the Idaho Power Co.?

I understand that the Bonneville Power Administration sells power to the Idaho Power Co. at the present time. I would like to have the general summary of the terms and conditions of this marketing and an analysis of the power furnished by season or month for at least the last 3 years by both parties. If you have the information, I would like to know how much seasonal surplus capacity exists in southern Idaho in the Idaho Power system at the present time, and how much surplus power is available for importation into Idaho from the Federal Columbia River power system?

Sincerely,

Frank Church,
United States Senator.

Department of the Interior,
Bonneville Power Administration,
Portland, Oreg., October 4, 1957.

Hon. Frank Church,
United States Senate,
Washington, D. C.

Dear Senator Church: In reply to your letter of September 18, I will attempt to summarize for you the status of our thinking with respect to integration between the Government's system and the system of the Idaho Power Co. and to provide the specific information you requested.

The Federal Power Commission license under which the Idaho Power Co. is constructing the Brownlee and adjacent projects, establishes a requirement for coordination with the Northwest Power Pool. As a practical matter, this, of course, means coordination with the Government's system. Such coordination is highly desirable to preserve the integrated pattern of power pooling—which has been of such considerable advantages to the Pacific Northwest—as these new plants are added.

The Bonneville Power Administration fully appreciates not only the license requirement but the advantages which would accrue from a coordination agreement. Further, I believe it is agreed that the final coordinated plan of operation should be such as to produce for the region the maximum effective utilization of the resources available. However, new and unusual issues are presented in the development of this coordination plan. These issues are requiring serious and lengthy consideration. While we have now in effect a number of contracts for general integration between systems, which have been worked out over many years in the past, we have as yet, encountered no situation which would establish a precise precedent for this case. For this reason, discussions are still very much in the preliminary exploratory stages, and I have not yet arrived at a decision

as to the type or types of arrangement which, in my opinion, would be acceptable to the Government. Obviously such a decision must precede a determination as to the exact terms and conditions of the arrangement. Both the general type of arrangement and the terms and conditions thereof will be affirmed as to legality by my counsel before the proposal stage is reached. For these reasons, at this point it appears that it will be some time before we are able to reach a sufficient stage of definiteness in our thinking to warrant a review.

It has been my plan to thoroughly discuss all proposed arrangements of importance with our customers, customer associations, and other interested groups (such as those represented by the membership of the Administration's Regional Advisory Council), prior to making a final decision. Integration with the Idaho Power Co.'s new plants is a matter of regional importance, and this review procedure will be followed. In fact, a status report on this matter has already been placed on the agenda for our forthcoming customer and Advisory Council meetings (scheduled for November). The Bureau of Reclamation, the Federal Power Commission, and the Corps of Engineers are being consulted. On matters of importance such as this, we work with the Secretariat and Solicitor's office of the Department. Legal analyses are currently underway.

I have given a similar status report to Senator Morse, who also inquired on this matter.

The Bonneville Power Administration exchanges power with the Idaho Power Co. under an exchange agreement executed March 4, 1955. This contract expires August 31, 1974. Either party, however, may cancel it upon 3 years' notice, but not prior to August 31, 1960.

This contract is the usual exchange arrangement between Bonneville and a distributor. It provides for mutual exchange of hydro energy. It also provides, in case of an emergency, for delivery to the Government of steam-generated energy which Idaho might be able to procure. In addition to the usual exchange arrangements, the contract includes a provision for delivery by the Government of up to 100 million kilowatt-hours of provisional power which may be delivered from the time the Government system goes on control until September 30 of each year. This provisional power must be returned if the Administration finds such to be necessary to carry any other loads in its normal service area, including interruptible industrial loads.

All accounts are settled at the H rate of 2½ mills per kilowatt-hour.

Deliveries started in May 1955. These deliveries, by months, are shown in the attached table. Bonneville has delivered a net of over 211 million kilowatt-hours to the Idaho Power Co., which represents revenue to the Government of over $500,000.

The attached table also shows the amount of secondary energy which is presently unallocated on the Federal system for the period July 1957 through June 1958, and which may be assumed to be available for Idaho. You will note that the amounts are considerably larger under median month hydrologic conditions than they are under minimum conditions.

Our information indicates that the Idaho Power Co. will face a power deficiency on its system, rather than a surplus, during the 1957–58 year. This deficiency may be met by the company either by purchases from other members of the eastern group of the pool, or by utilization of our surplus, to the extent we can supply it.

During October we will be in Washington, D. C., to present our 1959 budget request to the Bureau of the Budget, and I would appreciate the opportunity at that time of discussing with you the methods we have been studying to accomplish the requirements of the Idaho Power Co.'s license and also obtain the maximum generation from the projects in the Northwest.

Sincerely yours,

WM. A. PEARL, *Administrator.*

Energy deliveries—Idaho Power Co. exchange agreement

[Kilowatt-hours]

Month	BPA to Idaho	Idaho to BPA	Month	BPA to Idaho	Idaho to BPA
1955			*1956*—Continued		
May	2,160,000		August	31,245,000	
June	5,635,200		September	16,890,000	
July	5,978,400		October	0	
August	6,189,600		November	0	
September	6,724,800		December	0	
October	784,800				
November	0		*1957*		
December	1,257,600		January	0	
			February	0	
1956			March	0	
January	0		April	0	
February	0		May	689,000	
March	175,200		June	21,260,000	8,000
April	235,200	113,000	July	52,498,000	
May	3,694,200		August	22,614,000	
June	8,301,000				
July	24,911,000		Total	211,243,000	121,000

Seasonal surplus power—Federal system

[Kilowatt-hours]

1957–58	Minimum year	Median month year	1957–58	Minimum year	Median month year
July	466,488,000	548,328,000	January		11,160,000
August		84,816,000	February		49,848,000
September			March		81,096,000
October			April		247,752,000
November			May	348,936,000	668,112,000
December			June	931,488,000	692,664,000

EXHIBIT II

Order of Federal Power Commission Licensing Idaho Power Co. To Build Snake River Dams

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United States of America, Federal Power Commission

Before Jerome K. Kuykendall, Chairman; Claude L. Draper, Commissioners: Seaborn L. Digby, Frederick Stueck, and William R. Connole.

In the Matters of Idaho Power Company, Projects Nos. 1971, 2132, and 2133

ORDER ISSUING LICENSE (MAJOR)

Application was filed December 15, 1950, by Idaho Power Company, of Boise, Idaho, for a license under the Federal Power Act for a proposed hydroelectric development, known as Oxbow, and designated as Project No. 1971, to be located on Snake River in Idaho and Oregon, and on May 15, 1953, the Company filed applications for licenses for two additional proposed hydroelectric developments on Snake River, known as low Hells Canyon and Brownlee, and designated Projects Nos. 2132 and 2133, respectively. The proposed developments would be located in Adams and Washington Counties, Idaho, and in Wallowa, Baker, and Malheur Counties, Oregon. The applications were supplemented by later filings.

Public hearings were held on the Oxbox application (No. 1971) during July 1952, in Baker, Oregon, and Boise, Idaho, respectively, at which all persons desiring to speak either in favor of or against the issuance of a license were heard. After the filing of the applications for low Hells Canyon (No. 2132) and Brownlee (No. 2133), the proceedings upon the three applications were consolidated for purposes of public hearing. A further public hearing was held in Washington, D. C., commencing on July 7, 1953, in which hearing all parties, including the Applicant, the staff of the Commission, as well as the National Hells Canyon Association, Inc., Lewis County Public Utility District of Washington, et al., National Rural Electric Cooperative Association, the State of Washington and other parties participated, and presented testimony and documentary exhibits. After the close of the hearing, briefs were filed by the various parties and by the staff and an initial decision was rendered by the Presiding Examiner containing findings and conclusions. On July 6, 1955, the Commission heard oral argument on the exceptions to the Examiner's decision.

For the reasons set forth in Opinion No. 283 adopted this date and made a part hereof by reference, and upon consideration of the entire record in these matters, including the reports of the Federal and State agencies, protests from interested citizens, the briefs of the parties and the staff filed in connection therewith, the Examiner's decision, and the oral argument thereon, the Commission *finds:*

(1) The Brownlee, Oxbow and low Hells Canyon developments proposed by Applicant in the Hells Canyon reach of Snake River would occupy lands of the United States.

(2) The Snake River from its junction with the Columbia River up to the mouth of Henrys Fork is a navigable water of the United States.

(3) The proposed Brownlee, Oxbow and low Hells Canyon developments that would be constructed by Applicant would be located in and along a navigable water of the United States; and they would otherwise affect the interests of interstate or foreign commerce by affecting the downstream navigable capacity of the river.

(4) Under the provisions of Section 23 (b) of the Federal Power Act, the Applicant may not construct, operate or maintain any project or part thereof in Hells Canyon reach of Snake River until a license shall have been obtained therefor pursuant to this Act.

(5) The proposed project consists of:

(a) All lands constituting the project area and enclosed by the project boundary or the limits of which are otherwise defined, and/or interest in such lands necessary or appropriate for the purposes of the project, whether such lands or interest therein are owned or held by the applicant or by the United States; the general location of such project area being shown and described by certain exhibits which formed part of the application for license and which are designated and described as follows:

Exhibit J

FPC No.	*Showing*
1971–2	General Map of Oxbow Development
2132–1	General Map of Hells Canyon Development
2133–1	General Map of Brownlee Development

(b) All project works consisting of—

(1) The proposed Brownlee development, to consist of a rockfill dam having a maximum height of 395 feet and a crest length of 1,320 feet at elevation 2090 feet in the Snake River at river mile 284.6, and a concrete spillway section surmounted by tainter gates, creating a reservoir with a usable storage capacity of 1,000,000 acre-feet at a drawdown of 101 feet below elevation 2077 feet; a controlled intake, power tunnel and penstocks leading to a powerhouse containing initially four turbines each rated at 139,000 horsepower and connected to a 90,100 kilowatt generator operating under a gross static head of 277 feet, with provisions for an additional intake and tunnel and the future installation of two similar units in an extension to the powerhouse; and transmission facilities;

(2) The proposed Oxbow development, to consist of a rockfill dam having a maximum height of 205 feet and a credit length of 725 feet at elevation 1810 feet in the Snake River at river mile 273.2 and a concrete spillway section surmounted by tainter gates, creating a reservoir with a usable storage capacity of 6,200 acre-feet at a drawdown of 5 feet below elevation 1800 feet; a canal, tunnel and penstocks across the Oxbow; a powerhouse containing initially four turbines each rated at 58,000 horsepower and connected to a 37,750 kilowatt generator operating under a gross static head of 117 feet, with provisions for an additional tunnel and the future installation of two similar units in an extension to the powerhouse; and transmission facilities; and

(3) The proposed low Hells Canyon development, to consist of a rockfill dam having a maximum height of 320 feet and a crest length of 860 feet at elevation 1696 feet in the Snake River at river mile 247.5 and a concrete spillway section surmounted by tainter gates, creating a reservoir with a usable storage capacity of 11,200 acre-feet at a drawndown of 5 feet below elevation 1683 feet; an intake and power tunnel and penstocks leading to a powerhouse; a powerhouse containing initially five turbines each rated at 84,000 horsepower and connected to a 54,400 kilowatt generator operating under a gross static head of 208 feet, with provisions for an additional tunnel and intake and the future installation of two turbines each rated at 105,000 horsepower and connected to a 68,000 kilowatt generator in an extension to the powerhouse; and transmission facilities; the location, nature, and character of which are more specifically shown and described by the exhibits heretofore cited and by other exhibits which also formed part of the application for license and which are designated and described as follows:

Exhibit M

General Description and Specifications of Equipment

Brownlee Development: Statement in one sheet received in the office of the Commission on May 15, 1953.

Oxbow Development: Statement in two sheets received in the office of the Commission on July 22, 1953.

Low Hells Canyon Development: Statement in one sheet received in the office of the Commission in May 15, 1953.

(c) All other structures, fixtures, equipment or facilities used or useful in the maintenance and operation of the project and located on the project area, including such portable property as may be used or useful in connection with the project or any part thereof, whether located on or off the project area, if and to the extent

that the inclusion of such property as part of the project is approved or acquiesced in by the Commission; also, all riparian or other rights, the use or possession of which is necessary or appropriate in the maintenance or operation of the project.

(6) Two alternative, mutually exclusive, plans of development have been proposed for development of Hells Canyon reach or Snake River and have been designated for purposes of identification as the one-dam and three-dam plans, the latter plan being proposed by Applicant.

(7) The one-dam plan would include the high Hells Canyon Project to be located 247.3 miles above the mouth of Snake River and having: a concrete arch dam to develop a 602-foot head, eight 100,000-kilowatt generating units initially with provision for one additional 100,000-kilowatt generating unit, a total storage capacity of 4,400,000 acre-feet of which 3,880,000 acre-feet would be active storage, a spillway with a capacity of 300,000 cubic feet per second, and an operating head at the power plant varying from a maximum head of 602 feet to a design head of 475 feet and thence to a minimum head of 313 feet.

(8) The one-dam plan with an initial power installation of 800,000 kilowatts at the high Hells Canyon Project, or the three-dam plan with an initial installation of 783,400 kilowatts, would develop economically the 602-foot head in Hells Canyon reach of Snake River, could utilize the stream flow of the Snake River economically, and would have engineering feasibility.

(9) Projects with safe and adequate structures can be constructed in the Hells Canyon reach of Snake River regardless of whether they be in the one-dam or three-dam plans of development.

(10) Either plan of development hereinbefore described would provide flood control, navigation and recreational benefits in different degrees but would adversely affect fish and wildlife resources.

(11) The one-dam plan of development would provide the 2,300,000 acre-feet of flood control storage the Army contemplates in the main plan whereas the three-dam plan would provide at least 1,000,000 acre-feet of flood control storage and the difference would have to be provided somewhere else. The Department of the Army has not objected to the Applicant's proposal to provide 1,000,000 acre-feet of flood control storage in lieu of the 2,300,000 acre-feet contemplated under the one-dam plan.

(12) The one-dam plan of development would provide more navigation benefits than the three-dam plan would provide, but for either plan such benefits are not substantial dollar-wise when compared to power benefits.

(13) The Chief of Engineers, Department of the Army, has reported that structures which may affect the interests of navigation are satisfactory.

(14) There is a qualitative indication in the record that the one-dam plan would provide somewhat larger recreational benefits than would the three-dam plan, but sufficient comparative data are not available.

(15) None of the developments in either plan of development of Hells Canyon reach of Snake River would directly supply water for irrigation of lands.

(16) Either plan of development of the Hells Canyon reach would result in loss of, and damage to, wildlife resources but such losses could be mitigated in part if lands adjacent to proposed reservoirs were made available for wildlife development purposes.

(17) Either plan of development of the Hells Canyon reach of Snake River would block the runs of anadromous fish and some type of fish facilities would have to be provided for the protection of this resource.

(18) Assuming financing, construction and operation of both plans by the same entity, the ratio of power benefits to power costs of the three-dam plan is greater than that for the one-dam plan, and although the high Hells Canyon Project would produce a greater amount of power than the three-dam plan, the additional amount of power that could be produced by the high Hells Canyon Project would have a benefit-cost ratio of about one to one. Consequently the power features of the one-dam plan have no clear economic advantage over those of the three-dam plan.

(19) Federal construction of either plan of development proposed for the Hells Canyon reach could provide power revenues to subsidize irrigation works if such use is authorized by Congress.

(20) Federal construction of either plan of development proposed for the Hells Canyon reach could make possible a more extensive development of the phosphate resource located on land of the United States in Idaho and Utah than exists today.

(21) Public purposes such as flood control, navigation, recreation, and power production could be effectuated to about the same extent with private construc-

tion, as with Federal construction, of the same developments in the Hells Canyon reach of Snake River.

(22) There is a substantial power market in the area that could be served by projects in either plan considered for development of the Hells Canyon reach of Snake River.

(23) The extent to which electro-metallurgical use would be made of electric power that would be produced by development of the Hells Canyon reach would depend, in part, on the cost of such power.

(24) The general public has indicated an active interest in the plans proposed for development of the Hells Canyon reach of Snake River, and many individuals and spokesmen for groups have testified and submitted written comments thereon.

(25) The Brownlee, Oxbow, and low Hells Canyon developments proposed by Applicant would utilize the head and stream flow in an economical manner.

(26) Safe and adequate structures of the type proposed by Applicant can be constructed in the Hells Canyon reach of the Snake River.

(27) The proposed developments could and would be operated to provide flood control storage and navigation benefits.

(28) Recreational facilities and opportunities would be provided by Applicant at the Brownlee, Oxbow, and low Hells Canyon developments.

(29) The estimated cost of construction, exclusive of interest during construction, of the Brownlee, Oxbow, and low Hells Canyon developments in the amount of $175,766,000 as estimated by the Commission staff appears reasonable. However, the record indicates that the Applicant may be able to construct these developments at a lower cost.

(30) The peak-load requirements of the Idaho Power Company system have been increasing at an average annual rate of about 24,600 kilowatts during the 10-year period 1943 through 1952.

(31) The future peak load of Applicant's system is estimated to increase at an average annual rate of about 30,350 kilowatts.

(32) The total dependable capacity of 767,000 kilowatts that would be provided at the Brownlee, Oxbow, and low Hells Canyon developments would be fully utilized in the Applicant's own system by about the year 1975 and in the Northwest area about as soon as it could be developed if indicated arrangements with other systems can be firmed up.

(33) The estimated annual at-market cost to the Applicant of the power output that could be produced by the proposed Brownlee, Oxbow, and low Hells Canyon developments is $27,921,000 inclusive of annual cost of fish facilities.

(34) The estimated annual value to the Applicant of the power output at market that could be produced by the proposed Brownlee, Oxbow, and low Hells Canyon developments is $36,066,000.

(35) The Brownlee, Oxbow, and low Hells Canyon developments as proposed by Applicant would be economically feasible as power developments.

(36) The Applicant has shown ability to finance the proposed Brownlee, Oxbow and low Hells Canyon developments.

(37) Applicant has investigated power sites on Snake River above the Hells Canyon reach but indications are that such power output would be more expensive than the power output from developments proposed in the Hells Canyon reach.

(38) New steam-electric power stations as sources of power supply alternative to new hydroelectric developments would not be as economical.

(39) The Applicant should provide such fish protective facilities as may be required by the Commission upon the recommendations of the Federal and State fishery authorities.

(40) Applicant should provide means to preserve, to the extent practicable, the wildlife resources.

(41) The Applicant should provide means for conducting an archeological investigation in the Hells Canyon reach of the Snake River.

(42) The Applicant should coordinate the operation of its proposed Brownlee, Oxbow and low Hells Canyon developments and its power system with the Northwest Power Pool.

(43) The Idaho Power Company is a corporation organized under the laws of the State of Maine and is duly authorized to do business in the States of Idaho, Oregon and Nevada, and has submitted satisfactory evidence of compliance with the requirements of all applicable State laws insofar as necessary to effect the purposes of a license for each of the developments, namely, Brownlee, Oxbow and low Hells Canyon.

(44) No conflicting application is before the Commission. Public notice has been given as required by the Act.

(45) The proposed developments will not use any Government navigation dam, nor will the issuance of a license therefor as hereinafter provided affect the development of any water resources for public purposes which should be undertaken by the United States.

(46) The issuance of a license for the proposed developments as hereafter provided will not interfere or be inconsistent with the purposes for which the Payette, Whitman, and Wallowa National Forests were created or acquired nor with the purposes of any withdrawal of public lands.

(47) The three proposed power developments should be considered as a single project.

(48) The proposed project is best adapted to a comprehensive plan for improving or developing a waterway for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, and for other beneficial public uses, including recreation purposes.

(49) The total installed horsepower capacity of the project hereinafter authorized for the purpose of computing the capacity component of the administrative annual charge is 1,208,000 horsepower.

(50) The amount of annual charges to be paid under the license for the purpose of reimbursing the United States for the costs of administration of Part I of the Act, is reasonable as hereinafter fixed and specified.

(51) In accordance with Section 10 (d) of the Act, the rate of return upon the net investment in the proposed project, and the proportion of surplus earnings to be paid into and held in amortization reserves, are reasonable as hereinafter specified.

(52) Inasmuch as the record shows a need for revision of same, the Applicant should be required to file revised Exhibits F, K, and L as hereinafter provided.

(53) The amount of reasonable annual charges for the use, occupancy, and enjoyment of lands of the United States to be occupied by the proposed project, including transmission line right-of-way, shall be hereafter fixed and specified by the Commission.

(54) The following described Exhibit J drawings and Exhibit M, filed as parts of the applications for licenses for Projects Nos. 1971, 2132 and 2133, conform to the Commission's rules and regulations and should be approved as part of the license for the project:

Exhibit J: (FPC No. 1971–2), Oxbow H. E. Development, General Map;
(FPC No. 2132–2), Hells Canyon H. E. Development, General Map;
(FPC No. 2133–1), Brownlee H. E. Development, General Map.

Exhibit M: General description and specifications of equipment for Projects Nos. 1971, 2132 and 2133 (three exhibits).

(55) It is desirable to reserve for future Commission determination the question of what transmission lines and appurtenant facilities, if any, shall be included in this license.

The Commission *orders:*

(A) This license is issued to Idaho Power Company under Section 4 (e) of the Federal Power Act for a period of fifty (50) years, effective as of the first day of the month in which the acknowledgment of acceptance hereof is filed with the Commission, for the construction, operation, and maintenance of the proposed Brownlee, Oxbow, and low Hells Canyon developments (which developments for the purposes of this license, shall be considered as units of one complete project designated in the records of the Commission as Project No. 1971), subject to the terms and conditions of the Act which is incorporated by reference as a part of this license, and subject to such rules and regulations as the Commission has issued or prescribed under the provisions of the Act.

(B) This license is also subject to the terms and conditions set forth in Form L–6, December 15, 1953, entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters and Lands of the United States," which terms and conditions are attached hereto and made a part hereof; and subject to the following special conditions set forth herein as additional articles:

Article 28. The Licensee shall construct the project works as follows:

(a) Commence construction of the Brownlee unit within one year of the effective date of this license, and shall thereafter in good faith and with due diligence prosecute such construction; and shall complete that unit in 36 months.

(b) Commence construction of the Oxbow unit within four years of the effective date of this license, and shall thereafter in good faith and with due diligence prosecute such construction; and shall complete that unit in 24 months.

(c) Commence construction of the low Hells Canyon unit within six years of the effective date of this license, and shall thereafter in good faith and with due diligence prosecute such construction; and shall complete that unit in 36 months.

Article 29. The Licensee shall submit, in accordance with the Commission's rules and regulations, revised Exhibit L, and Licensee shall not begin construction of the project works in any unit until the Commission approves the exhibits relating to that unit.

Article 30. The final design of the spillways at the dams of the proposed project shall be based on model tests.

Article 31. The Licensee shall, within one year from the date of commencement of construction of each unit, file with the Commission Exhibits F and K in accordance with the rules and regulations of the Commission.

Article 32. The Licensee shall prior to flooding clear lands in the bottoms and margin of the reservoirs up to high water level, and shall dispose of all temporary structures, unused timber, brush, refuse, or inflammable material resulting from the clearing of the lands or from the construction and maintenance of the projects works. In addition, all trees along the margin of the reservoirs which may die during the operation of the project shall be removed. The clearing of the lands and the disposal of the material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission.

Article 33. The Licensee shall cooperate with the Smithsonian Institution in the salvage of archeological values at four sites recommended by that Institution in a report dated January 1951 (Exhibit 10), and the Licensee shall, upon request of the Institution and further order of the Commission, contribute to that Institution the sum of $12,000 for archeological excavations.

Article 34. The Licensee shall make available to the Secretary of the Interior, upon his request and further order of the Commission, a sum up to $250,000 for use by the Fish and Wildlife Service to carry out detailed studies of the extent and character of the fishery resource of the project areas and to devise means and measures for mitigating losses to that resource.

Article 35. The Licensee shall construct, maintain and operate or shall arrange for the construction, maintenance and operation of such fish ladders, fish traps or other fish handling facilities or fish protective devices and provide fish hatchery facilities for the purpose of conserving the fishery resources and comply with such reasonable modifications of the project structures and operation in the interest of fish life as may be prescribed hereafter by the Commission upon its own motion or upon the recommendations of the Secretary of the Interior and the conservation agencies of the States of Idaho and Oregon.

Article 36. The Licensee shall negotiate with the Fish and Game Commission of the State of Oregon and Department of Fish and Game of the State of Idaho with respect to the amount the Licensee shall pay each year to defray a reasonable portion of the operation and maintenance cost of fishery facilities to be provided under the license. Should the Licensee and the State agencies fail to agree on the amount to be paid by the Licensee for such purpose, the Commission reserves the right to determine the amount of this annual payment after notice and opportunity for hearing.

Article 37. The Licensee shall negotiate with the Game Commission of the State of Oregon and the Department of Fish and Game of the State of Idaho with respect to the acquisition by the Licensee for the State agencies of island and marsh areas along the Snake River for development as substitutes for waterfowl nesting areas to be lost by reservoir inundation. Should the Licensee and the State agencies fail to agree on the acquisition of such lands, the Commission reserves the right to make a final determination in this matter after notice and opportunity for hearing.

Article 38. The Licensee shall make available to the Secretary of the Interior, upon his request and further order of the Commission, a sum up to $60,000 for the preparation by the National Park Service in cooperation with Licensee, of a recreational master plan.

Article 39. The Licensee shall operate the project and its system in coordination with the Northwest Power Pool and shall arrange for such transmission facilities as may be required for such operation.

Article 40. At such time as the Commission may direct and to the extent that it is economically sound and in the public interest to do so, after notice and opportunity for hearing, the Licensee shall install additional generating units at the Brownlee, Oxbow, and/or low Hells Canyon units.

Article 41. The project shall be operated in such manner as will not conflict with the future depletion in flow of the waters of Snake River and its tributaries, or prevent or interfere with the future upstream diversion and use of such water above the backwater created by the project, for the irrigation of lands and other beneficial consumptive uses in the Snake River waterhead.

Article 42. In the interest of flood control the Licensee shall operate the project as follows:

(a) The total live storage space of about 1,000,000 acre-feet between elevation 1976 and elevation 2,077 mean sea level will be made available for flood control use if and as required.

(b) The reservoir level elevation will be no higher than elevation 2,034 by 1 March of each year to provide about 500,000 acre-feet of storage space for flood control use at that time each year.

(c) Additional storage space required up to 500,000 acre-feet will be obtained by evacuation as necessary during the month of March in a manner to insure availability on or before 1 April of the total storage capacity needed for flood control, as estimated by the Corps of Engineers. This space will be retained until capture of flood flows is requested by the Corps of Engineers, subject to possible involuntary storage as may be required due to temporary inflows in excess of outlet capacity, or until refilling in the interest of power output is authorized by the Corps of Engineers. In the event of involuntary storage, full capacity will be regained as soon as possible.

(d) During the flood storage period controlled outflows will be as requested by the Corps of Engineers. Daily outflows of 30,000 acre-feet, as a minimum, will be permitted when required for power purposes.

(e) In order to achieve the above operation for flood control, discharge capacity of 65,000 c. f. s. at minimum pool, evaluation 1976, including gated outlet capacity plus one-half of the ultimate turbine capacity, is to be provided by the Licensee.

(f) The above conditions will be subject to review from time to time as requested by the Licensee or the Corps of Engineers.

Article 43. The project shall be operated in the interest of navigation to maintain 13,000 c. f. s. flow in the Snake River at Lime Point (river mile 172) a minimum of 95% of the time, when determined by the Chief of Engineers to be necessary for navigation. Regulated flows of less than 13,000 c. f. s. will be limited to the months of July, August, and September, during which time operation of the project would be in the best interest of power and navigation, as mutually agreed to by the Licensee and the Corps of Engineers. The minimum flow during periods of low flow or normal minimum plant operations will be 5,000 c. f. s. at Johnson's Bar, at which point the maximum variation in river stage will not exceed one foot per hour. These conditions will be subject to review from time to time as requested by either party.

Article 44. The Licensee shall pay the United States the following annual charges for the purpose of reimbursing it for the costs of administration of Part I of the Act: One (1) cent per horsepower on the authorized installed capacity (1,208,000 horsepower) plus two and one-half (2½) cents per 1000 kilowatt-hours of gross energy generated by the project during the calendar year for which charge is made. The Licensee shall also pay to the United States such charges as may be specified hereafter for the purpose of recompensing the United States for the use, occupancy and enjoyment of its lands, including transmission line right-of-way.

Article 45. The Commission expressly reserves the right to determine at a later date the question of what transmission lines and appurtenant facilities, if any, shall be covered in this license and included as part of the project works.

(C) The exhibits described in finding (54) above are approved as part of the license for the project.

(D) This order shall become final thirty (30) days from the date of its issuance unless application for rehearing shall be filed as provided by Section 313 (a) of the Act, and failure to file such an application shall constitute acceptance of this license. In acknowledgement of the acceptance of this license, it shall be signed for the Licensee and returned to the Commission within sixty (60) days from the date of issuance of this order.

By the Commission.

LEON M. FUQUAY, *Secretary.*

Adopted: July 27, 1955.
Issued: August 4, 1955.

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